

Final Report

Project No. H-232529
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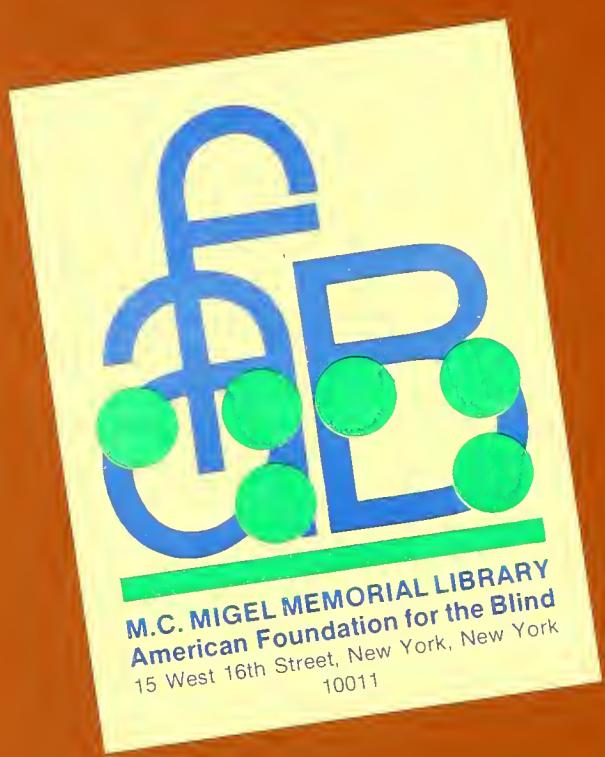
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A STUDY OF BEHAVIORAL CHANGE IN 50 SEVERELY MULTI-SENSORILY HANDICAPPED CHILDREN THROUGH APPLICATION OF THE VIDEO-TAPE RECORDED BEHAVIORAL EVALUATION PROTOCOL

January 1976

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Office of Education
Bureau of Education for the Handicapped

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The research reported herein was performed pursuant to a grant with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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Preface

This project was developed and jointly conducted with Edward T. Donlon from its inception with the terminological analysis in 1967 thru collaboration on the project reported here.

The Telediagnostic Protocol which results is the effort of both researchers.

Abstract

Forty-nine deaf-blind children were video-taped in eight three-minute behavioral observation situations on three occasions at yearly intervals. The video taped samples were submitted to judgment by three judges who recorded the behavior observed on the Behavior Rating Form and the Summary Rating Form of the Telediagnostic Protocol.

Results of the study indicated:

1. The test is shown to correlate to a statistically significant degree with standardized psychometrics.
2. The test is shown to correlate to a statistically significant degree with teacher ratings.
3. Groups of judges with varying degrees of training are shown to have scores not statistically significantly different.
4. The two halves of the test are shown to be statistically significantly correlated.
5. The population is shown to change over test administrations to a statistically significant degree.
6. The population is shown to present different levels of behavior in the test situations to a statistically significant degree.
7. Item and domain inter-correlations are reported which along with the above produce a revised Telediagnostic Behavioral Evaluation for deaf-blind children.

The authors conclude that these data point to the validity and reliability of the test procedure. They indicate certain useful features of this test and test construct in comparison with standardized psychometrics and development schedules with low functioning populations.

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Introduction

In the early 1960's the Syracuse University Center for the development of blind children, utilizing staff members from several resources of the university and the Upstate New York Medical Center, regularly performed evaluations of the severely multi-handicapped deaf-blind children referred by the American Foundation for the Blind which maintained a registry of deaf-blind persons throughout the country at that time. The register listed 417 children under 20 years of age. Records on approximately 100 of those registered were available at the center, including historic information and basic test material derived through team evaluations by the center staff.

With the rubella epidemic occurring in the first half of the 1960's, the authors recognized a certain responsibility to this rapidly expanding population of deaf-blind children and new evaluation and service programs. There was a need to share procedures, data and ideas from the past to help those entering the programs as either clients or professionals. Three specific activities seemed in order:

1. The reporting of a team evaluation procedure which had been utilized at the center, with each member of the team describing his role and recommending test procedures for each discipline based on his experiences.

2. It seemed important to summarize the information available on the known deaf-blind population at that time from available clinical records in order to produce a data base for the study of the deaf-blind population.

3. Utilizing the experiences obtained in the testing center along with the ideas generated in preparing the above team evaluation guide and based on data obtained in the evaluation of client records, the generation of research activities and projects which would meet needs immediately clear.

Traditional team evaluation

In 1970 the American Foundation for the Blind published Deaf-Blind Children: Evaluating their Multiple Handicaps (Curtis, Donlon, and Wagner). This report described the function of the various professional examiners on a comprehensive deaf-blind evaluation team and fulfilled the first objective, identified above as of that time. In some areas severe deficiencies in information with respect to testing procedures called for further publication to clarify especially neglected evaluation and programmatic problems of that population (Curtis, 1966).

Terminological analysis

In attempting to develop a data base for the description of blind children, the authors undertook a project supported by the rehabilitation services administration (Curtis and Donlon, 1969) which consisted of essentially a terminological count from case records of deaf-blind children available at the center as described above. The general procedure was to read each report of each professional examiner and to catalogue each professional vocabulary term or clinical descriptive term in the child's record. Seventy of the 100 case records of the center were suitable for inclusion in the study. Each child seen in this group had undergone a comprehensive diagnostic examination given over a three to five day period. Each case folder contained reports made by individuals on the evaluation team. The children ranged in age from one year ten months, to 21 years eight months. Fifty-one of the 70 children were between three and ten years of age. They resided in eight types of programs with 39 living at home. Six were in residential placement. These results were later further analyzed by Donlon (1969) as follows.

The terms catalogued by the examiners were divided into six general categories. Two of these groups, Child Traits and Family Traits, were further divided into lists of terms considered as Physical and Behavioral, producing ten classification categories (Table 1). Nearly two-thirds of the 164 terms were descriptive terms relating directly to the child's physical or behavioral traits. These were concerned, of course, with a wide variety of traits, which in itself attests to the thoroughness of the evaluations and the concern of the various specialists to depict the child as accurately and specifically as possible.

The final list of terms for each category was developed through a process of removing the duplicate terms and grouping those with similar meanings as seen in Table 1.

The distribution of terms stimulates several questions about the relationship of terms between disciplines. The relative number of terms used, for instance, should be consistent with what one would suspect from certain disciplines. The medical profession might be expected to account for 200 of the 218 normal physical traits descriptive of the child. It is more difficult to understand why medical reports should account for 316 of the 581 behavior terms.

Social work reports alone equal the neurology and pediatric in the area of general information. When considering family behavior, however, where one might expect the social work report to have a special depth, the number of terms used are disproportionately small.

The medical specialists accounted for the largest number of terms. They also had the greatest reduction of terms through the modification process. Several factors may account for this. The terms used by the medical profession may be specific to one condition. Several terms may easily be grouped together: For example, those terms used to describe either left or right. The modified list did not distinguish dominance in that manner. Another example had to do with anesthesia.

Table 1

Number of Original and Modified Terms Used in Each Descriptive Category by Discipline
at the Syracuse University Center for the Development of Blind Children

Category	Neurology		Pediatrice		Ophthal-		Psycho-		Social		Totals	
	Orig	Mod	Orig	Mod	Orig	Mod	Orig	Mod	Orig	Mod	Orig	Mod
General Info.	17	15	87	36	0	0	0	0	10	2	28	21
Etiol. Factors	41	36	20	14	11	10	1	1	0	0	16	13
Child Physical	139	115	55	33	86	52	11	11	7	7	0	0
Normal											298	218
Child Physical	132	122	144	70	76	46	13	11	0	0	9	7
Abnormal											374	256
Child Behavior	308	221	137	83	22	12	38	32	243	217	17	16
Diagn. Descrip.	39	39	4	4	10	6	8	8	46	44	0	0
Procedures											107	101
Family Physical	40	31	215	129	0	0	0	0	0	0	7	6
Family Behavior	1	1	20	9	1	1	0	0	7	7	4	36
Previous Treat.	6	51	91	47	30	4	5	5	8	8	2	2
Child											142	117
Previous Treat.	10	10	34	20	0	0	1	1	0	0	0	45
Totals	733	641	807	445	236	131	77	69	321	285	86	69
											2260	1640

The physician's report named the various types of anesthetics. These were condensed in the modified list. Or perhaps the medical examination may report more since there are more items which do not require cooperative behavior on the part of the child.

Obviously some important factors are not represented by term counting or possibly even by the terminology used. Some concepts may have been hidden in phrases which could not be itemized as descriptive terms.

Interesting speculation occurs around the specificity evident in grouping of terms attributed to some specialists. The psychological reports, for instance, devoted 219 of the 281 isolated terms to child behavior. This may be laudable but it is difficult to determine from the data presently available whether or not other factors such as etiology or family behavior were considered as significant by the psychologist, and if they were, why there were not more terms in these categories.

The ophthalmologists and audiologists were especially conscious of their specific interests. Neither group was very concerned with factors other than the child's senses. Whether or not this is a true statement of the specialists role may be important to study further.

The relative emphasis each specialist placed on the various categories is evident from Table 2. The totals column shows the percentage of terms used by all specialists combined. Only ten percent of the terms used related to family behavior. This might be predicted since the child is really the one being evaluated. Still there is a question whether all relative and important behavioral traits can be described with this number of terms. The six percent of terms devoted to formal tests as presented in diagnostic descriptive procedure is a clear demonstration of the lack of available tools in this area. This is especially pronounced when one realizes that terms used in this category do not necessarily describe usable tests. Many are based on statements made by the specialist to the effect that formal procedures could not be used.

It was believed that the terminological data analysis moved toward the second goal of the authors stated on the opening page of this report.

In order to base plans for future research on the findings of that investigation, a conference was called wherein the Syracuse University staff and representatives of centers for testing, treatment, and teacher training met to isolate behavioral researchable parameters of the deaf-blind population.

The participants in the conference were asked to consider the following problems: (1) What parameters of the population such as age, sex, maturity, degree of disability, etc., would constitute a critical sub-sample for research? (2) In what situations (physical environs as well as type of people present and test objects available) should a child be observed (video-taped) in order to enhance inter-agency

Table 2

Percentages for Terms Used in Each Descriptive Category by Discipline and for all Disciplines Combined at the Syracuse University Center for the Development of Blind Children

Category	Neurology	Pediatrics	Ophthalmology	Audiology	Psychology	Social Work		Totals Percent
General Information	2.0	8.0	0.0	0.0	0.7	30.0	4.5	
Etiological Factors	6.0	3.0	7.5	1.0	0.0	19.0	4.0	
Child Trait Physical Normal	18.0	7.0	39.0	16.0	2.0	9.0	13.0	
Child Trait Physical Abnormal	19.0	16.0	35.0	16.0	0.0	10.0	15.5	
Child Trait Behavior	34.0	18.0	9.0	46.0	77.0	23.0	35.0	
Diagnostic, Descriptive Procedures	6.0	0.9	4.5	11.5	15.0	0.0	6.0	
Family Traits Physical	5.0	29.0	0.0	0.0	0.0	9.0	10.0	
Family Traits Behavior	0.2	2.0	0.8	0.0	2.0	6.0	1.0	
Previous Treatment Child	8.0	10.5	4.0	7.0	3.0	3.0	7.0	
Previous Treatment Family	1.5	4.0	0.0	1.0	0.0	0.0	2.0	
Totals	99.7	98.4	99.8	98.5	99.2	100.0	98.0	

case reporting and evaluation procedures? (3) What means of experimental appraisal or quantification of the observations ought to be employed?

Participants other than the center staff included, Carl Davis, Psychologist, Perkins School for the Blind, Boston; James Palasek, Assistant Professor and Speech Pathologist, The Horace Rackham School, Eastern Michigan University, Ypsilanti; William Meyers, Assistant Professor, Multi-Handicapped Program, University of Texas, Austin; Mary Snell, Supervising Teacher, Deaf-Blind Department, Alabama School for Deaf and Blind, Talladega; and Robert Jones, Audio-Visual Consultant, Syracuse University, Syracuse.

The following criteria were determined by the conference to be suitable criteria by which a relatively homogeneous sub-group within the deaf-blind population might be delimited for meaningful research in the future.

1. Since the initiation of the current research had grown out of an evaluation center's testing of children for the purpose of educational placement especially in those instances when children have proven to be difficult to evaluate, then the general factor of a suspected auditory and visual problem becomes the initial criteria. The profound nature of the child's over-all problem as specified below makes it clear why the loss or distortion of vision and hearing could not be more precisely specified.

2. The children should be those being considered for admission to an educational program for the deaf-blind child. Such programs generally follow for their most elementary criteria, the frequently cited definition: "every child whose visual loss or hearing loss is so great that he cannot succeed in classes designed for his primary problem alone."

3. The ordinary criteria of either chronological or mental age was quite inappropriate by mutual agreement of the conference participants as a means of delimiting the population for study. For this reason, through discussion, a consensus for what might be called the age or maturity level of the child to be included in the study was specified as follows:

- a. Chronological age--no greater than eight years at the time of first testing.
- b. Evidence of minimal development in terms of self-help skills no less than those characteristics which follow:
 1. Evidence that toilet training has been initiated with some success;
 2. evidence that solid food is tolerated and eaten by the child;
 3. evidence that the child is ambulatory;

4. evidence of an attempt to assist in the process of dressing himself other than passive or flaccid non-responsiveness;
5. evidence of interaction with people and the environment.

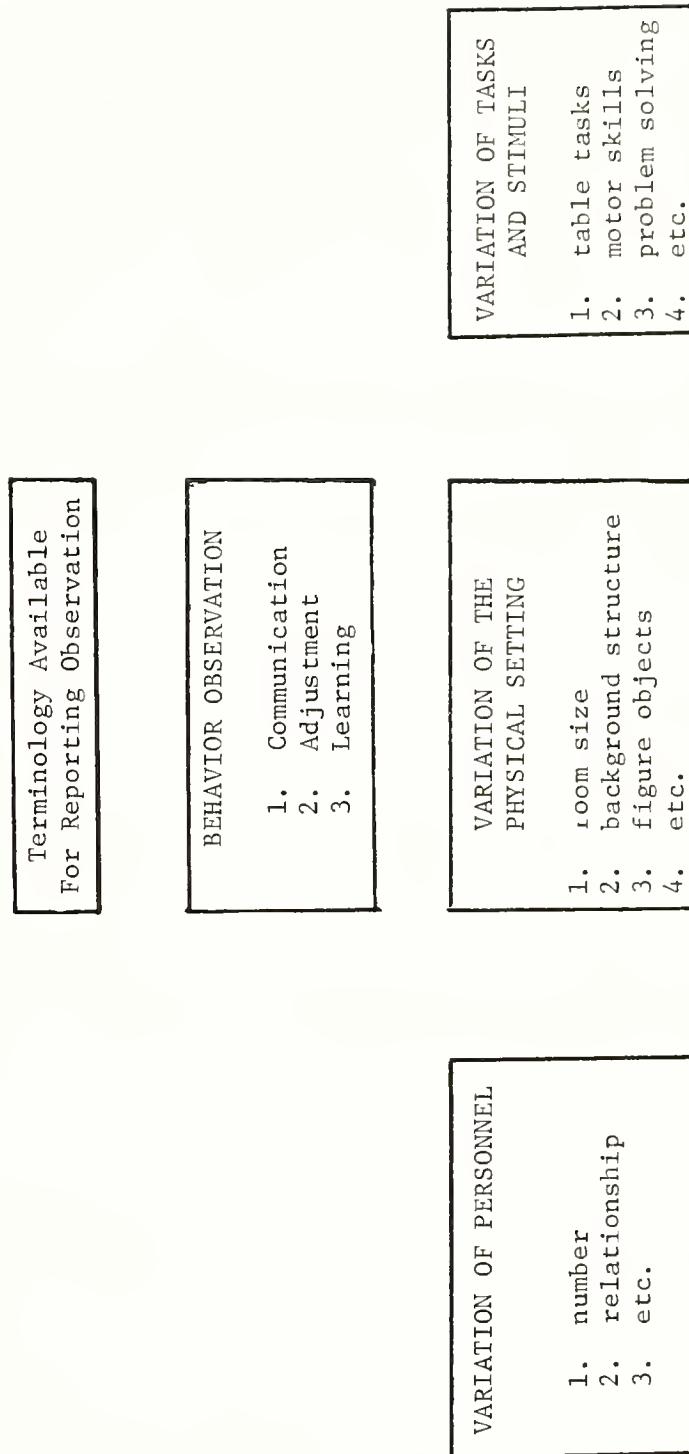
Observation situations suggested

At this early stage of the experimental planning the following situations for video-tape observation of the child were selected resulting in the model, Figure I.

1. A visual inspection of the child with the close-up lens of the camera showing those characteristics to which one might wish to point special attention or which might not be observable on long range shots. For example, a close-up of an apparently flaccid or hypertense muscle or reflex pattern; close-ups of the oral structure when such are obviously malformed, etc.
2. Interaction of the child with the mother in two situations. One, where the mother is feeding the child, another where the mother is "showing off" the child's best learning.
3. A duplication of situation two using an unfamiliar testor rather than the mother for the same tasks.
4. Observation of the child in a peer situation where some directed activity and some non-directed activity can be observed.
5. A learning situation based on the child's most likely potential for successful participation. The level of learning might vary from some relatively high degree of motor performance as in game playing or even rarely formal learning down to some conditioned response level of learning.
6. Free play situation with a wide variety of objects being made available to the child.
7. Observation of the child with both an authoritarian and a permissive individual.
8. A situation in which the child responds out of boredom, being isolated from as much visual, auditory and tactile stimulation as possible.
9. A brief interview with the parent.
10. Observation of the child in a casual, home-like environment.
11. Observation of the child with auditory and visual aids, such as glasses and auditory trainers when they are or may be part of his equipment.

Figure I

A Model Indicating the Parameters of Behavioral Observation Used in Clinical Examination



It was agreed by the participating consultants that in the course of an hour one might show a child briefly engaged in the variety of above activities to provide for an enormous enhancement of the referral process and the communicative process between agencies.

Based on this conference result, a research project was undertaken with support of the U.S. Office of Education (Grant No. OEG-0-9-422134-2764 (032), as follows.

Preliminary behavioral evaluation and telediagnostic protocol (Curtis and Donlon, 1972).

The essence of the procedure was to encapsulate on brief segments of video tape the child's behavior most characteristic of him at the time of examination. These microencapsulations were viewed by several professional workers and rated on forms which required systematic responses showing types of behavior and levels of behavior present in communicative, adjustive and learning skills.

Specifically, eight video tape-recorded segments of three minutes in length were taken of the child in the course of the day. The segments include the following: 1. An unstructured situation showing the child as he performs when left alone without stimulation in a relatively unfamiliar room. 2. A task orientation showing the child working at a table task such as block stacking, bead stringing, puzzle making or a higher level psycho-educational task. 3. A stimulus orientation in which the child is shown under subjection to stimuli in all sensory avenues; i.e., auditory, gustatory, tactile, visual, olfactory, etc. 4. An interpersonal orientation in which the child is shown closely interacting with an adult without the intervention of toys, materials or machine. 5. At mealtimes usually showing the child at lunch with his peers. 6. Self-care skills in which the child is shown at a common daily task such as toileting, dressing, bathing. 7. A formal classroom situation in which the child is shown working with his teacher on a task characteristic of his lessons for that week. 8. An informal social situation in which the child is shown at play with his peers.

The procedure was applied to 19 deaf-blind children and their video tapes were judged by 10 experienced professionals who rated various items of behavior for each domain. The mean judged scores were submitted to statistical treatment or inspection as follows.

Preliminary communication domain development

Over the three-year period of the project, several approaches were taken to the study of communication, adjustment and learning skills of the deaf-blind subjects. The first year of the study was concerned entirely with identifying the types and levels of communication skills of the children and to the investigation of whether or not these skills vary when observed in different situations.

In the first year of the project, the child was observed in four 10 minute scenes (unstructured, task, stimulus and interpersonal) and a 10 minute interview about the child's communicative skill was recorded with the mother, teacher or aid.

A review of the first years data comparing communicative modalities in various situations gives a strong impression that the level of communication in each modality is rather consistent from one situation to another. It is important to remember however that this is group data. One could not demonstrate from the first years findings that an individual child was an equally effective communicator in all situations. The first years data were not analyzed statistically.

During the second year of the project the children were evaluated for communicative skills as one aspect of adjustment. The children were viewed in six 5 minute scenes: two activities of daily living, two informal or social situations, and two formal learning situations. Communicative modalities used did not vary between situations for the group and ranked in order of frequency of observation as tactile reception, visual reception, tactile - motor expressive, gustatory-olfactory receptive and oral expressive. The second years data were not analyzed statistically.

In the third year of the study communication was observed in a different way. "In eight different situations, how will each communicative modality contribute to learning? Will each be an asset or liability?" Figure I clearly shows the superiority of the visual-tactile-kinesthetic system over the aural-oral system. Table 3 (analysis of variance) indicates that the statistically significant differences between the sensory - expressive modalities are greater than chance. In further statistical analyses the previously suggested prospect that individual children differ from one situation to another was borne out (Table 4).

Adjustment domain development

Adjustment was rated in three ways: Observation of children's interaction patterns in two formal, two informal, and two daily living situations each five minutes in length.

As video taped recordings of children were observed their interaction patterns were classified. Adults, peers and objects were noted as they related to the subject. Their position in the interaction was listed as initiator, mediator, or recipient. The extent and nature of the process of isolation is clearly presented in Tables 5, 6, and 7 (Appendix A). The pattern of interaction varied with the type of situation.

Judges were asked to observe behavior as it signified the ten attributes listed in Tables 8, 9, and 10 (Appendix A). If judges observed the attribute in the situation they were required to rate it as either desirable or undesirable to the child's adjustment in that situation. When the attributes were observed they were more often rated desirable than undesirable. There was a high incidence of judgments however, where a trait was not observed (Curtis and Donlon, 1972), a finding related to further test development and scoring (Diebold, 1975).

Table 3

Analysis of Variance for the Ratings of Communication

Category	Sum of Squares	df	MS	F
Receptive Communication				
Vision	887.46	9	98.61	9.27***
Audition	1248.52	9	138.72	21.21***
Tactile/Kenesthetic	643.19	9	71.47	25.55***
Expressive Communication				
Tactile/Motor	893.87	9	99.32	23.03***
Oral	1195.82	9	132.87	52.68***

*** Significant at .001 level

Table 4

Analysis of Variance for 37 Behavioral Judgments in Three Domains by 10 Judges for 19 Deaf-Blind Children

Category	Sum of Squares	df	MS	F
Between Judges				
Judges (j)	53893.19	9	5988.13	97.61***
Error (R:J)	11042.27	180	61.34	
Within Judges				
Situation (S)	1031.25	7	147.32	28.23***
Situation X Judges	388.95	63	6.17	1.18***
Error (RS:J)	6575.84	1260	5.22	
Behavioral Item (I)	18214.39	36	505.95	252.66***
Behavioral Item X Judges	1154.11	324	35.62	17.79***
Error (RI:J)	12976.42	6480	2.00	
Situation X Behavioral Item	5529.70	252	21.94	31.24***
Judges X Situations X Behavioral Item	5737.03	2268	2.53	3.60***
Error (RSI:J)	31862.33	45360	0.70	

*** Significant at .001 level

Tables 8, 9, and 10 (Appendix A) summarize judgments of the desirability of certain adjustive attributes as rated by the judges.

Intellectual domain development

In the third year of the study, further use was made of the idea of "not observed" and "neutral rating" categories for skills which did not occur or which, if occurring, could not be scaled - only noted. Tables 11, 12, and 13 (Appendix A) are examples of the value of this approach when compared with the lesser amount of information obtained from the preceding three tables.

In this year a broader attempt at using the asset - liability dichotomy for scaling was tried with all three behavior domains with the results shown in Tables 11, 12, and 13 (Appendix A).

Finally, data from the third year of the preliminary study were analyzed by situation, judge and item.

The analysis of variance (Table 4) supported the original assumption of the authors, viz. expert judges will have differing opinions of the type and level of behavior of the same child even if they see him in exactly the same (video taped) activity. Furthermore, the children will be seen as having different types and levels of behavior in different clinical and life situations and finally various items of behavior for communication, adjustment and learning can be identified and agreed to as important variables and will be seen to differ, that is, to be independent when used as items on a judgment scale.

Other researchers independently of this project have used methodologies currently employed in the evaluation process of deaf-blind children: (1) standardized tests and (2) developmental scales and (3) behavior ratings.

Behavioral observation and case study

Near the end of the terminological study (Curtis and Donlon, 1969) and during the first year of the development of the Telediagnostic Protocol (Curtis and Donlon, 1972) a child was referred to the Syracuse University Center for the Development of Blind Children, deaf-blind evaluation team, who presented a particular challenge and opportunity. The four-year old child was administered a standardized test battery, including a Cattelle at CA 54.2 months and obtained a mental age of 8.0 months which was an equivalent I.Q. of 15. On the Denver Developmental Screening Test, the child produced scores of gross motor-10 months, fine motor/adaptive-7.5 months, language-6 months, and personal social-7 months. The child was physically small, unable to sit or walk and produced little behavior other than limited head turning. Given this profoundly handicapped client along with the ongoing research interest in behavioral evaluation of such children through the use of video tape samples and the extraordinary commitment of one doctoral student in the speech pathology program, a research project was undertaken (Mery, 1975) which included the residential assignment of the

child to the home of the doctoral student who worked with the child daily and collected regular video taped samples of behavior and an anecdotal record of behavior. The video taping included scenes of five-minutes duration taken according to the following paradigm:

Food: all episodes during which the presentation of food items and actual feeding/eating were the principal activities.

Non-Food: all episodes during which the presentation of non-food items and/or exploration and object manipulation were the principal activities.

Adult Present: all episodes during which the adult structured and directed the activity, interacting with the subject and imposing demands on him for the directed actions required for the successful completion of the activity.

Adult Absent: all episodes during which the adult usually (not always) structured the activity, and then withdrew to observe the subject's behavior; the adult was present to minimally attend the subject, but generally did not interact with the subject.

A total of five hours of tape was reduced to 60 one-minute samples viewed by the researcher who recorded observable behavior..."the written record of the composite tape was assigned to a single-behavior category, e.g., reach, fix eyes on, avert head, push away, etc., for the purpose of deriving a corpus of terms applicable to the recorded observations across episodes. A frequency count was made within each single-behavior category for each of the 60 episodes." Single-behavior categories were also judged to be either approach or withdrawal behavior.

These research observation categories are included here in some detail to provide the reader with an indication of the variety of models which can be employed in the evaluation of behavior through observation and to indicate a certain consistency between some factors which appear here and those which occur in later forms of the Telediagnostic Protocol, for example, the food situation, the importance placed on the presence or absence of an adult, the references to structure, etc. even the binary rating concept of approach and withdraw may be somewhat related to the concepts of asset and liability utilized in the later scale.

On the basis of the three month intervention by the researcher (Mery, 1975) the post-test results on the standardized battery indicated a .4 month mental age gain on the Cattell Infant Intelligence Scale and on the Denver Scale a gain of 5 months gross motor behavior attributed (by the author) to the development of supported walking, a .5 month gain in fine motor adaptive skills, a 2 month loss in language skills and an 11 month gain in personal social skills. On the basis of standardized results the author concludes as follows:

"The results obtained in the administration of the Cattell Infant Intelligence Scale and the Denver Developmental Screening Test are consistent with the observations of the subject over time during the course of the study. That is, in spite of intensive training with high demand in a therapeutic, supportive, home-teaching situation, little positive change was found that was of importance to the learning capabilities of this child."

One might presume from these standardized test scores and developmental schedules that behavioral change which occurred could not be adequately reflected by the restricted range and limited items of the tests.

An example of how the behavioral evaluation procedure utilizing a more disbursed scoring range could be of greater value in characterizing this child and comparing him with others is shown by the author (Mery, 1975) in the following list.

Rank Order Scores According to Decreasing Mean Frequency
of Visual Withdraw Behavior

Condition	Mean Frequency
Adult Present - Non-Food	4.75
Adult Present - Food	4.33
Adult Absent - Food	3.00
Adult Absent - Non-Food	0.88

The reader will find an extensive display of similar behavioral observation scores produced within the model utilized by Mery. Inspection of this research report should lend some evidence to the validity of the behavioral observation approach for the study of children who are profoundly handicapped. Clinical workers should note the important opportunities for displaying the behavior of profoundly handicapped children on scales with sufficient dimensions to indicate change due to the variation of features in situations, to materials present, to people involved at the time of testing and other aspects of a behavioral observation scene which may ultimately provide them with better opportunities for child study, educational planning and accountability in terms of change for resources invested.

Standardized tests and developmental scales

Standardized tests and batteries of them were described in some early reports from the Perkins School for the Blind evaluation program (Robbins, 1963) and more recently by Kiernan and Dubose (1974) who focus on the testing of cognitive skills and point out that, "most of the currently available tests are obsolete..." being constructed many years ago and that none of the tests catalogued were designed for the population of interest here.

Utilizing selected items from such tests the authors constructed another one, the Peabody Intellectual Performance Scale (PIPS), which correlated highly (.95) and statistically significantly with two of the older more general tests. The authors believed it important that the PIPS scores were statistically significantly higher and conclude their test to be of greater value with the population under study.

In addition to the above Kiernan and Dubose make two points relevant to the consideration of good testing procedure. They point out the importance of test materials which have a high degree of stimulus value and they point out the need to have a test which can be administered non-verbally or verbally. Both of these features were considered in the construction of the video tape protocol as an evaluation tool.

A recent example of the application of developmental scales to the deaf-blind population is the work of Stillman (1973) who reports projects using the "Azuza Scale". This scale shares some features of the standardized testing approach in that it is developmentally oriented and goes back to norms for normal children as markers for scaling the deaf-blind child.

It shares some features with the Telediagnostic Protocol in that it allows more than one teacher or professional worker to administer and score the procedure. Also, it encompasses several areas of behavior including socialization, daily living skills, motor development, perceptual abilities and language development. Within each of these five topics are four performance objectives with six developmentally sequenced items.

In a pre- and post - test comparison of 124 deaf-blind children over an eight month period, 10 months of progress was recorded developmentally with greatest progress in motor development and almost none in perceptual abilities. Several displays of growth problems within areas were made adding creditability to the concept of non-test behavioral scaling as a means of evaluating deaf-blind children.

Since the scale ceiling items are at the 5-6 year level for normals, the applicability at high level or with older deaf-blind children is fixed. This characteristic is shared with other standardized tests and developmental scales.

Gay (1974) developed a language behavior rating scale and applied it to multi-handicapped children and deaf-blind children. Her test had the following features. It was developmental in construct based on skills normal children have. It was verbal in presentation. It was scored while in the presence of the child. One scorer opinion was accepted and the score was binary per item. Some of the authors conclusions are relative to considerations here. Test-retest reliability and inter-testor agreement were demonstrated as was testor-teacher agreement. The high level items were sufficiently high (max. 72 months) but a shortage low range items was noted by the author.

The test was believed more appropriate for multi-handicapped than deaf-blind children. She suggests, "therefore, teachers will have to

rely on their own observations and devise their own method of assessing low development levels of non-verbal language abilities. Teacher may wish to use a series of questions devised by Curtis (1970) to guide their observations."

With reference to deaf-blind children, Elzy (1971) described an instrument for the observational rating of a child's behavior in the school setting. After considering many approaches, it appeared to him that the most useful device would be a multi-dimensional time sample observational instrument which would permit ratings of individual children and the adults who come into contact with them during their school experiences. The variables and their subcategories included: Type of Experience the Child is Having, (None, Sensory, Manipulative, Large Muscle, Social, Cognitive, Creative, Other); Child Involvement Level, (None, Low, Medium, High); Other Direction, (None, Helps, Instructs, Prohibits); Person Involved, (None, Teacher, Assistant Teacher, Parent, Other Adult, Other Child); Activity Level, (None, Low, Moderate, High); Mobility, (Prone, Sitting, Crawling, Standing, Walking Supported, Walking Unsupported, Running-climbing); Self-Direction, (Low, Medium, High); Cognitive Behavior, (None, Repetitive, Aimless-random, Exploratory-nondirective, Purposive-goal Directed, Experimental, Problem Solving); Expressive Communication, (None, Physical, Voice Projection, Gestures, Speech); Affect, (Anger-protest, Unhappiness, Mild Happiness, Happiness, None or Inappropriate).

The observational instrument was used in situations in which the child was provided with "Directed Learning Experiences" and "Unstructured Learning Experiences". The time unit for observation was one minute, repeated 15 times per child.

Tweedie (1974) investigated further one video taped subject from the preliminary study Curtis and Donlon, (1972) - a subject identified by her judged scores to be among the lowest performers from the group of 19 subjects. He expanded the judgment scale to nine choices representing equal intervals from liability to asset and utilized only 24 behavior rating form test items from the video taped protocol. Segments for two test administrations separated by a four-year period were shown to ten judges. Mean judged scores were submitted to analysis of variance and indicated statistically significant differences between the two test administrations between situations between communication, adjustment and learning domains and between the 24 items. Three of four situations showed positive change. Only the interpersonal interaction scene was judged to show behavioral regression. Mean changes were on the order of 1.5 to 2.0 scale units.

Tweedie concluded, "a child as severely handicapped as a deaf-blind child makes such slow progress that it is often difficult to document positive behavioral change."

In another extension of the behavioral observation process, utilizing an audio-behavioral response profile, Tweedie (1975) studied the importance of multiple judgments of video tape samples of severely multi-handicapped children during the administration of a battery of

audiometric tests. His conclusion supports the concept that more than one observation adds to the credibility of what has been viewed as a single testor decision, even in the relatively objective audiometric situation.

Summary of introduction

Although much of the preliminary work on behavioral observation is admittedly subjectively reviewed, having been conducted by the authors of this report or their associates, some broad summary seems to be warranted as a basis for the work reported here:

1. Testors and researchers have reported dissatisfaction with available standardized psychometrics and developmental schedules as evaluation procedures for deaf-blind children (Curtis, 1966; Curtis, Donlon and Wagner, 1970; Diebold, 1975; Elzey, 1970; Gay, 1974; Kiernan and Dubose, 1974; Stritmater, 1976; and Tweedie, 1972).

2. All of the above have participated to varying degrees in the study of behavioral evaluation as a means of assessment or recommended behavior observation as a necessary part of the evaluation process. None have rejected it as invalid or unreliable or meaningless.

3. Certain features of evaluation instruments have emerged as desirable in any tool and should serve as a guide in evaluating the relative role of test procedures. They include:

- a. The procedure should bear sufficient relationship with known developmental or standardized tests to guarantee some degree of validity.
- b. The procedure should be one which can be administered reliably by teachers and general field workers without extensive training.
- c. The test result should be in an item format more usable than a "single score" type instrument providing a useful base for instructional planning.
- d. The test should have a broader range of scores geared to the assets of the deaf-blind population. Base and ceiling scores should allow the mean performance on the deaf-blind group to be placed higher than traditional tests, being more sensitive to children operating at lower performance levels.
- e. The test should be administerable both to verbal and non-verbal, deaf and hearing, blind and sighted children without penalty.
- f. The test should be usable with uncooperative, unresponsive and "difficult to test" clients.
- g. The test should be repeatable for the study of growth and change through several forms or by some other features of its construction.

- h. The test should have a scoring or reporting format which reduces decision errors due to the bias of one examiner.
- i. The test should be as free from semantic abstraction levels as possible: Presenting the "real" behavior of the child as opposed to verbal generalization about it.
- j. The test should use life activities and objects and should be as close to reality as possible to reduce the need to generalize results.
- k. The test should be inexpensive in construction and should be easily produced for distribution.

Purpose

The purpose of this research project was two-fold:

- 1. To further develop the Telediagnostic Behavior Evaluation Protocol, according to the above criteria and
- 2. to delineate the characteristics of the deaf-blind population observed through the procedure during the process of test development.

Procedure

Behavioral evaluation test instrument

The Telediagnostic Protocol as described and preliminarily developed (Curtis and Donlon, 1971) was the test instrument employed in the study. It is Appendix B. The instructions are the administration procedure employed and the Behavior Rating Form and Summary Rating Form were utilized according to the protocol's instructions in this experiment. Subjects were taped three times at yearly intervals.

Subjects

Subjects were selected with the aid of representatives of the deaf-blind regional centers and staff of the deaf-blind programs. Regional Center representatives met as a group with the authors to review the test, the objectives and the research population needs and recommend appropriate centers in their regions. The centers at which tests were conducted are shown in Figure II.

Criteria for inclusion in the study sample were as follows:

- (a) The children were in a diagnostic or educational program at a center recommended by the Deaf-Blind Regional Center staff representatives.
- (b) The children were assigned placement for educational or training purposes as deaf-blind or were being considered for placement as deaf-blind children.
- (c) The children were judged by the center staff to be more typical than atypical of the deaf-blind population at their center for their age.
- (d) The children were between the ages of three and eight years at the time of the first taping.
- (e) The children were in the first three years of diagnostic treatment or observation at that center at the time of the first taping.
- (f) The children were motorically mobile and of sufficiently good health to suggest that they could be freely placed in the future on the basis of educational rather than medical criteria.
- (g) The children were more likely than not to be available throughout the three-year study period regardless of relocation or new placements.

Figure II

Participating Agencies

Alabama Institute for the Blind
Box 268
Talladega, Alabama 35160

California School for the Blind
3001 Derby Street
Berkeley, California 94705

Coastal Center
Jamison Road
Ladson, South Carolina 29456

Education Services Center
1550 N. E. Loop 410
San Antonio, Texas 78213

Georgia Academy for the Blind
Vineville Avenue
Macon, Georgia 31201

Meeting Street School
75 Charlesfield Street
Providence, Rhode Island

Michigan School for the Blind
715 West Willow Street
Lansing, Michigan 48906

National Childrens Center, Inc.
6200 2nd Street N.W.
Washington, D.C. 20011

New York Institute for the Blind
999 Pelham Parkway
Bronx, New York 10461

Overbrook School for the Blind
64th and Millburn
Philadelphia, Pennsylvania 19142

Peabody College for Teachers, Kennedy Ctr.
Box 326
Nashville, Tennessee 37203

Perkins School for the Blind
175 N. Beacon Street
Watertown, Massachusetts 02172

Pine Woods Center
116 Pinewood Avenue
Troy, New York 12180

Program for Deaf-Blind
2600 Marble N. E.
Albuquerque, New Mexico 87106

Santa Clara County M. H. Program
195 E. Virginia
San Jose, California 95112

Texas School for the Blind
1100 West 45th Street
Austin, Texas 78756

Washington State School for the D and B
2214 E. 13th Street
Vancouver, Washington 98661

West Virginia School for the D and B
Romney
West Virginia 26757

When subjects from the previous three-year study were available in the centers, they were tested and included in the population sample with the hope that eventually longitudinal video tape data might be available on this sub-sample. These were subjects #4 thru #16 and #36 (a total of 17).

The project criteria were discussed with placement center staff who assisted the authors in selecting the 32 additional children to those continued from the preliminary study for the sample. The population studied is listed by school, age, and sex in Appendix C. Children were tested within 18 programs visited. Of the 60 tested, 11 were not included in the final analysis due to moving, illness when the testors were on site, or video tape equipment failure during one of the three test administrations. Thus, 49 subjects were evaluated in this report.

Judges

The judges were selected from those who had been previously associated with the project in its earlier development. They represented a variety of professional backgrounds but were all involved with deaf-blind programs or children currently or in the recent past. They included:

Louise Burton, Instructor in Special Education, Talladega College.

William Myers, Associate Professor of Special Education, University of Texas.

Wendy Nowlin, Social Case Worker, Georgia Center for Multi-handicapped.

James Palasek, Associate Professor of Special Education, Speech Pathologist, Horace Rackham School, Eastern Michigan University.

Lauri Ritchie, Speech Therapist, Syracuse, New York.

David Tweedie, Assistant Professor, Gallaudet College.

Judgment procedure

After the video tape samples were collected on all children for a year, they were assembled through tape dubbing on the equipment shown in Appendix D so that each tape scene for each child was presented in the same order to all judges. Three judges viewed and rated each tape of the sample. The order of judgment was varied so that differening sets of judges viewed differening subjects each year. Approximately 50% of the subjects were viewed in only one year by a given judge. Within the 50% viewed for two years by a judge 27% were alternate year judgments and 23% were consecutive year judgments.

Results

Results are presented in three sections. The first section reports data and statistical tests relevant to the test procedure, including mean scores, analysis of variance for the means and Duncan Multiple Range Tests of Homogeneity for significantly different means for the three behavioral domains, the seven behavioral systems identified within domains, and the forty-two items on the Behavior Rating Form. Identical data are presented for the Summary Rating Form in terms of the three behavioral domains, seven systems within domains, and twenty-five test items. A "Split-half" comparison of clinical and life situations is reported as are tests for differences between situations, and intercorrelations for domains within and between situations and an item analysis correlation matrix.

The second portion of the results contains descriptive information with respect to the population tested, and scores for individual subjects obtained by year showing score distributions for the population and each subject in terms of scoring possibilities within the domains, systems and items of the test.

The third result section describes three studies utilizing portions of the project population and sub-samples of the experimental subjects in order to pursue specific features of the test in some detail. These include, comparison of levels of professional training and their affect on the scoring of the communication portion of the protocol (Tweedie, 1973); a study of the intercorrelation of the protocol with a battery of standardized psychometric procedures applied to a sub-sample of 25 children in the research population (Diebold, 1975); and a comparison of the protocol test scores and standardized test battery scores with teacher ratings of subject behavior through the protocol format for a sub-sample of 25 children (Stritmater, 1976).

The reader should note that the data reported in the tables must be read carefully and only compared as indicated by footnote or data column title. Means presented for inspection or comparison to the rating form categories are scaled from 1 to 4 or 1 to 5 depending on the dimensions of the scale. Means treated statistically are converted according to Diebold's configuration using a zero value for missing items. This procedure and rationale are reported in Appendix A and borne out by the sub-sample study reported herein (Diebold, 1975). Other tables show frequency counts when appropriate and percent of occurrence scores such as in the case of modal and distribution tallies which relieve the reader of any concern over scoring issues and allow him to see real population homogeneity and variables when he is concerned with individual child data.

Result Section One: Procedure related test data

Behavior domains. Tables 14 and 15 show mean scores from the Behavior Rating Form and the Summary Rating Form for each behavioral

Table 14

Mean Judged Score for Each Behavioral Domain on the Behavior Rating Form for All Situations for Each Year

Domain*	Score		
	Year		
	1	2	3
Communication	2.27	2.37	2.40
Adjustment	1.84	1.89	2.03
Learning	1.28	1.28	1.41

* Score ranges are not identical for each domain. They are: 0-5 for Communication, 0-4 for Adjustment and 0-4 for Learning.

Table 15

Mean Judged Score for Each Behavioral Domain on the Summary Rating Form for All Situations for Each Year

Domain*	Score		
	Year		
	1	2	3
Communication	1.76	2.17	1.92
Adjustment	1.73	1.76	1.56
Learning	3.15	2.15	2.66

* Score ranges are not identical for each domain. They are: 0-5 for Communication, 0-4 for Adjustment and 0-5 for Learning.

domain for each year. In general, the group results indicate that the subjects tended to remain the same in each domain or to progress slightly but within the same general rank on both the mean for the eight situations of the Behavior Rating Form and the Summary Rating Form scores over the three-year period.

One-way analyses of variance for each domain combining all situation scores comparing means across the three-year period were significant for each domain (Tables 16, 17, and 18).

The Duncan Multiple Range Test of Homogeneity was used to display mean differences for the group data over the three-year period for each domain on the Behavior Rating Form. These means are reported in Tables 19, 20, and 21. The communication mean scores increased between the first and second testing but held constant for the third year of testing. The mean score for adjustment and learning on the other hand remained constant for the first two test administrations and rose statistically significantly for the third test year.

Tables 22, 23, and 24 report one-way analyses of variance scores comparing means over the three-year period for the Summary Rating Form for each domain. As in the case of the Behavior Rating Form, all analyses were statistically significant for each domain.

Tables 25, 26, and 27 report the Duncan Multiple Range results for domain means. These results differ in configuration over the three-year period from those of the Behavior Rating Form. Communication scores were not significantly different on the first and third test occasion, but were significantly higher on the second test year. Adjustment mean scores were not significantly different the first two years of testing but decreased the third year while the learning mean scores increased consistently and significantly with each test administration.

Split-half comparison: clinical vs. life situations. As described in the test instructions, one intent of the original instrument design was to compare the performance of the child in clinical or contrived situations which might be found in a more traditional testing environment with situations taken from life scenes in the child's day.

Table 28 reports correlations for scores obtained on the Behavior Rating Form for the four clinical situations compared for life situations. Correlations for this split-half evaluation for each domain were high (.80 or more) and statistically significant.

Table 29 reports t-test values for comparison of mean scores for the two test halves for each domain. These results indicate that although the correlations are high and significant, the mean scores for clinical and life situations do have some statistically significant differences. The clinical vs. life situation mean scores do not differ to a statistically significant degree in the adjustment domain, however clinical situation scores for the communication domain are higher to a statistically significant degree than in the life situation scores whereas learning performance is statistically significantly lower in the clinical situations than the life situations.

Table 16

Analysis of Variance for Mean Judged Scores for the
Communication Domain for All Situations on the
Behavior Rating Form Between Years

Source	df	SS	MS	F
Between Years	2	9.18	4.59	8.49*
Within Years	3133	1693.73	0.54	
Total	3135	1702.90		

* Significant 0.000 level

Table 17

Analysis of Variance for Mean Judged Scores for the
Adjustment Domain for All Situations on the
Behavior Rating Form Between Years

Source	df	SS	MS	F
Between Years	2	16.01	8.00	12.85*
Within Years	3133	1950.86	0.62	
Total	3135	1966.87		

* Significant 0.000 level

Table 18

Analysis of Variance for Mean Judged Scores for the
Learning Domain for All Situations on the
Behavior Rating Form Between Years

Source	df	SS	MS	F
Between Years	2	9.24	4.62	11.47*
Within Years	3133	1261.90	0.40	
Total	3135	1271.14		

* Significant 0.000 level

Table 19

Duncan Multiple Range Homogeneity of Means for Each Year for the Communication Domain on the Behavior Rating Form

Year	Mean ¹
1	2.27*
2	2.37 *
3	2.40 *

¹ Any two or more means which have asterisks in the same vertical line are not significantly different

Table 20

Duncan Multiple Range Homogeneity of Means for Each Year for the Adjustment Domain on the Behavior Rating Form

Year	Mean ¹
1	1.84*
2	1.89*
3	2.03 *

¹ Any two or more means which have asterisks in the same vertical line are not significantly different

Table 21

Duncan Multiple Range Homogeneity of Means for Each Year for the Learning Domain on the Behavior Rating Form

Year	Mean ¹
1	1.28*
2	1.28*
3	1.41 *

¹ Any two or more means which have asterisks in the same vertical line are not significantly different

Table 22

Analysis of Variance for Mean Judged Scores for the
 Communication Domain for the Summary
Rating Form Between Years

Source	df	SS	MS	F
Between Years	2	12.71	6.35	11.60*
Within Years	438	239.94	0.55	
Total	440	252.64		

* Significant 0.000 level

Table 23

Analysis of Variance for Mean Judged Scores for the
 Adjustment Domain for the Summary
Rating Form Between Years

Source	df	SS	MS	F
Between Years	2	3.64	1.82	3.18*
Within Years	438	250.80	0.57	
Total	440	254.45		

* Significant 0.000 level

Table 24

Analysis of Variance for Mean Judged Scores for the
 Learning Domain for the Summary
Rating Form Between Years

Source	df	SS	MS	F
Between Years	2	74.23	37.11	27.82*
Within Years	438	584.27	1.33	
Total	440	658.50		

* Significant 0.000 level

Table 25

Duncan Multiple Range Homogeneity of Means for Each Year for the Summary Rating Form for the Communication Domain

Year	Mean ¹
1	1.76*
2	2.17 *
3	1.92*

¹ Any two or more means which have asterisks in the same vertical line are not significantly different

Table 26

Duncan Multiple Range Homogeneity of Means for Each Year for the Summary Rating Form for the Adjustment Domain

Year	Mean ¹
1	1.73 *
2	1.76 *
3	1.56*

¹ Any two or more means which have asterisks in the same vertical line are not significantly different

Table 27

Duncan Multiple Range Homogeneity of Means for Each Year for the Summary Rating Form for the Learning Domain

Year	Mean ¹
1	3.15*
2	2.15 *
3	2.66 *

¹ Any two or more means which have asterisks in the same vertical line are not significantly different

Table 28

Correlations for Significance of Difference of Mean Judged Scores for Each Domain for Clinical vs Life Situations on the Behavior Rating Form

Domain	Test Half	Mean	Correlation
Communication	Clinical	2.38	.87*
	Life	2.30	
Adjustment	Clinical	1.87	.81*
	Life	1.88	
Learning	Clinical	1.28	.81*
	Life	1.47	

* Significant 0.000 level

Table 29

T-Test for Significance of Difference of Mean Judged Scores for Each Domain for Clinical vs Life Situations on the Behavior Rating Form

Domain	Test Half	Mean	t-Value
Communication	Clinical	2.38	5.34*
	Life	2.30	
Adjustment	Clinical	1.87	-0.61
	Life	1.88	
Learning	Clinical	1.28	-10.59*
	Life	1.47	

* Significant 0.000 level

System comparison. Mean scores for systems within modality are reported in Table 30 by year averaged across situations. No statistical analyses of systems were performed since domain and item analyses provide sufficient information to consider both test construction or population characteristics. The means however, indicate trends in the Behavior Rating Form mean scores across situations. Communication scores consistently rose in each system and there is high agreement between system scores by year. The adjustment domain's first system showed mean increases over the three years. The greatest variability was shown between years in the learning domain. The intellectual system of the learning domain was lower than the motor and affective features of the learning system. The pattern for general increase in mean scores over the three years did not hold true for the affective and intellectual systems of the learning domain.

The interaction pattern is seen as one system of the adjustment domain which cannot be reduced to a single numerical value, and therefore is not treated statistically. Table 32 reports the frequency of occurrence of interaction patterns by year. Of the 1176 ratings per year per category, approximately two-thirds were adult initiated interaction patterns. This was consistent throughout the three-year period. No instances of child initiated behavior towards the subject are scored and that only a negligible number of subject to child interaction patterns are identified.

Mean scores for the Summary Rating Form systems are shown in Table 31. A general overall pattern of increased scores from the first to last test administration is apparent. Those sub-systems which may contribute most to that overall growth are the receptive and content systems of the communicative domain and the three systems of the learning domain. Adjustment system mean scores generally regressed over the three-year period.

Item analysis. The correlation matrix for items of the Behavior Rating Form (Table 33) and Summary Rating Form (Table 34) generally suggest item independence. The highest relationships exist for items of the affective domain compared with the affective system of the behavior domain. These suggest some item deletion as part of the test revision in the context of further data from the domain by situation analysis.

Some high relationships such as items 21, 23 and 25 on the Summary Rating Form are predictable and not necessarily duplicative and do not suggest item deletion.

Mean scores for each item on the Behavior and Summary Rating Forms averaged for all situations are shown for each of three test administrations, Appendix H and I. Scores show visual and auditory reception to be very high scores for the group in all years. Object centered communicative referents show higher scores than people centered communicative referents while tactile motor expressive skills are judged to be higher than all other expressive skills. Manageability, cooperativeness and physical activity appear to be higher level adjustment capabilities of the children while curiosity seems to be the least high rated adjustment factor. In the

Table 30

Mean Judged Score for Each Behavioral System on
the Behavior Rating Form for All Subjects
for All Situations for Each Year

System*	Score		
	Year		
	1	2	3
Receptive Communication	2.31	2.39	2.45
Referent Communication	2.52	2.56	2.61
Expressive Communication	1.94	2.09	2.12
Adjustment	1.84	1.89	1.93
Affective Learning	1.33	1.28	1.33
Motor Learning	1.98	2.00	2.07
Intellectual Learning	.68	.66	.66

* Score ranges are not identical for each system. They are: 1-5 for receptive, referent and expressive communication systems, 1-4 for the adjustment system, 1-4 for the affective, motor and intellectual learning systems. These scores were not transformed to Diebold's scoring system since statistical procedures were not employed. They may be compared directly to individual scores

Table 31

Mean Judged Score for Each Behavioral System on the
Summary Rating Form for All Subjects for Each Year

System*	Score		
	Year		
	1	2	3
Expressive Modality	1.63	1.83	1.68
Receptive Modality	1.73	1.99	1.85
Content	2.10	2.40	2.53
Adjustment	1.73	1.46	1.49
Activities of Daily Living	3.46	3.55	3.71
Formal/Structured Situations	3.07	3.31	3.30
Unstructured/Social Situations	2.96	3.31	3.32

* Score ranges are not identical for each system. They are: 1-5 for receptive, referent and expressive communication systems, 1-4 for the adjustment system, 1-4 for the affective, motor and intellectual learning systems. These scores were not transformed to Diebold's scoring system since statistical procedures were not employed. They may be compared directly to individual scores

Table 32

Frequency of Occurrence for Interaction Pattern
 on the Behavior Rating Form for All Subjects
 for All Situations for Each Year

Interaction Pattern Initiator - Mediator - Recipient	Frequency*		
	Year		
	(1)	(2)	(3)
adult - object - subject	452	440	368
adult - objects - subject	253	231	302
adult - not rated - subject	57	46	21
adult - subject - subject	21	29	32
adult group - object - subject	6	11	5
adult - adult - subject	5	4	1
adult group - objects - subject	1	37	51
sub-total	795	798	780
subject - object - subject	214	216	243
subject - not rated - subject	45	39	40
subject - subject - subject	35	50	55
subject - objects - subject	15	29	28
subject - object - adult	8	7	4
subject - adult - subject	4	12	2
subject - object - child group	3	0	1
subject - not rated - adult	2	2	5
sub-total	326	355	378
mixed group - object - subject	5	2	0
object - object - subject	4	0	0
not rated - not rated - not rated	11	3	3
sub-total	20	5	3
TOTAL	1141	1158	1161

* Items having less than 4 occurrences in 3 years are not reported

Table 33

**Inter-correlation of Test Items on the Behavior
Rating Form for All Subjects for All Years**

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3	.19	.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4	.14	.12	.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5	.19	.49	.55	.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6	.38	.40	.41	.05	.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7	.33	.36	.42	.19	.38	.44	-	-	-	-	-	-	-	-	-	-	-	-	-	
8	.45	.11	.10	.04	.08	.32	.25	-	-	-	-	-	-	-	-	-	-	-	-	
9	.23	.26	.21	.10	.20	.40	.30	.11	-	-	-	-	-	-	-	-	-	-	-	
10	.13	.34	.29	.12	.34	.26	.26	.02	.40	-	-	-	-	-	-	-	-	-	-	
11	.24	.32	.30	.13	.25	.35	.35	.11	.59	.39	-	-	-	-	-	-	-	-	-	
12	.12	.26	.17	.14	.26	.14	.20	.02	.25	.52	.26	-	-	-	-	-	-	-	-	
13	.20	.38	.30	.13	.29	.37	.29	.08	.51	.57	.44	.41	-	-	-	-	-	-	-	
14	.25	.33	.27	.09	.25	.42	.29	.12	.56	.50	.46	.33	.62	-	-	-	-	-	-	
15	.21	.27	.15	.08	.21	.36	.24	.13	.51	.46	.36	.44	.53	.54	-	-	-	-	-	
16	.13	.30	.21	.11	.28	.26	.17	.07	.36	.59	.30	.54	.55	.49	.58	-	-	-	-	
17	.19	.38	.36	.11	.32	.31	.31	.09	.37	.53	.44	.43	.51	.51	.42	.48	-	-	-	
18	.18	.26	.12	.10	.22	.26	.11	.11	.18	.28	.15	.35	.35	.31	.43	.39	.30	-	-	
19	.21	.26	.11	.11	.21	.25	.13	.14	.21	.29	.16	.36	.35	.33	.45	.39	.29	.82	-	
20	.21	.28	.15	.08	.23	.38	.25	.14	.49	.46	.35	.45	.52	.54	.87	.58	.42	.43	.49	
21	.16	.31	.20	.08	.30	.27	.18	.10	.35	.59	.30	.53	.55	.48	.54	.76	.47	.36	.41	.59
22	.20	.38	.31	.14	.31	.31	.28	.09	.50	.60	.43	.43	.68	.58	.52	.58	.54	.32	.36	.55
23	.17	.12	.09	.01	.11	.31	.09	.10	.25	.17	.16	.15	.20	.23	.32	.24	.14	.20	.22	.32
24	.08	.06	.06	.03	.10	.17	-.01	.06	.08	.05	.04	.11	.09	.08	.17	.12	.06	.13	.14	.17
25	.28	.24	.09	.09	.15	.30	.15	.19	.37	.35	.25	.44	.39	.38	.55	.50	.34	.42	.46	.56
26	.21	.39	.34	.10	.33	.32	.29	.13	.32	.50	.36	.39	.49	.49	.42	.48	.62	.33	.35	.45
27	.11	.13	.07	-.05	.04	.28	.03	.08	.18	.17	.10	.23	.21	.22	.31	.25	.14	.27	.29	.32
28	.42	.48	.62	.16	.34	.31	.29	.08	.41	.60	.42	.48	.62	.56	.48	.53	.56	.37	.39	.51
29	.19	.36	.23	.10	.29	.31	.23	.08	.43	.53	.38	.49	.55	.49	.58	.57	.51	.38	.40	.60
30	-.00	.05	-.09	-.21	-.09	-.01	-.07	.01	-.01	.09	-.01	.19	.00	.05	.09	.13	.12	.15	.13	.09
31	.15	.25	.23	.12	.22	.19	.24	.10	.19	.29	.26	.24	.23	.25	.21	.22	.33	.17	.16	.21
32	.15	.53	.29	.18	.34	.28	.23	.10	.32	.42	.28	.31	.41	.36	.40	.42	.39	.32	.33	.42
33	.27	.35	.31	.24	.32	.30	.26	.14	.35	.42	.32	.34	.42	.41	.39	.42	.42	.32	.34	.41
34	.20	.31	.24	.09	.21	.26	.33	.14	.27	.29	.30	.28	.32	.31	.32	.28	.36	.20	.22	.33
35	.36	.22	.19	.02	.19	.36	.30	.36	.22	.21	.18	.18	.23	.23	.25	.21	.19	.15	.17	.26
36	.10	.17	.16	-.02	.19	.21	.15	.06	.14	.17	.10	.21	.17	.15	.22	.21	.12	.22	.24	.23
37	.24	.27	.31	.06	.37	.38	.31	.15	.35	.38	.28	.35	.39	.40	.49	.40	.34	.26	.28	.49
38	.29	.24	.30	.08	.33	.38	.34	.19	.37	.30	.27	.35	.36	.38	.53	.36	.29	.24	.29	.52
39	.09	.15	.18	-.08	.23	.24	.04	.05	.16	.20	.09	.22	.20	.19	.26	.24	.12	.22	.22	.27
40	.35	.35	.40	.13	.41	.42	.47	.24	.41	.35	.38	.23	.40	.42	.40	.31	.37	.18	.23	.42
41	.26	.28	.29	.10	.32	.34	.35	.23	.25	.34	.25	.23	.31	.33	.30	.34	.32	.19	.22	.33
42	.25	.23	.23	.01	.26	.35	.35	.20	.25	.24	.20	.21	.25	.26	.30	.27	.21	.14	.17	.30

21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
.61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
.25	.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
.11	.08	.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
.51	.42	.32	.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
.51	.54	.17	.08	.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
.26	.21	.35	.28	.37	.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
.58	.66	.20	.07	.39	.59	.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
.55	.58	.24	.11	.48	.53	.24	.55	-	-	-	-	-	-	-	-	-	-	-	-	-	
.13	.04	.01	.05	.15	.12	.07	.03	.12	-	-	-	-	-	-	-	-	-	-	-	-	
.24	.27	.07	.03	.19	.30	.04	.30	.26	.19	-	-	-	-	-	-	-	-	-	-	-	
.41	.43	.20	.10	.37	.39	.17	.43	.43	.10	.34	-	-	-	-	-	-	-	-	-	-	
.42	.47	.18	.08	.39	.41	.16	.45	.44	.07	.36	.53	-	-	-	-	-	-	-	-	-	
.30	.35	.11	.02	.27	.34	.07	.34	.37	.17	.40	.34	.43	-	-	-	-	-	-	-	-	
.21	.23	.21	.02	.27	.20	.15	.22	.25	.01	.08	.18	.21	.16	-	-	-	-	-	-	-	
.20	.18	.20	.21	.22	.16	.29	.18	.21	.06	.04	.15	.12	.09	.21	-	-	-	-	-	-	
.39	.39	.28	.18	.39	.36	.23	.40	.41	.03	.16	.33	.31	.24	.30	.33	-	-	-	-	-	
.36	.36	.30	.18	.42	.33	.22	.36	.41	.06	.15	.30	.31	.25	.31	.30	.70	-	-	-	-	
.25	.20	.30	.22	.28	.15	.29	.20	.22	.00	.04	.19	.16	.06	.25	.37	.45	.46	-	-	-	
.33	.43	.19	.10	.32	.39	.10	.40	.39	.12	.22	.37	.40	.34	.31	.22	.56	.60	.24	-	-	
.36	.34	.21	.09	.30	.35	.11	.33	.35	.03	.17	.29	.31	.24	.39	.23	.42	.40	.23	.53	-	
.27	.26	.20	.04	.27	.23	.17	.24	.27	.03	.08	.19	.22	.16	.58	.25	.39	.42	.39	.37	.43	

Table 34

**Inter-correlation of Test Items on the Summary
Rating Form for All Subjects for All Years**

Item	1	2	3	4	5	6	7	8	9	10	11	12	13
1	-	-	-	-	-	-	-	-	-	-	-	-	-
2	.58	-	-	-	-	-	-	-	-	-	-	-	-
3	.40	.36	-	-	-	-	-	-	-	-	-	-	-
4	.18	.19	.16	-	-	-	-	-	-	-	-	-	-
5	.41	.61	.35	.41	-	-	-	-	-	-	-	-	-
6	.77	.56	.38	.20	.42	-	-	-	-	-	-	-	-
7	.53	.75	.32	.22	.55	.57	-	-	-	-	-	-	-
8	.38	.39	.71	.14	.28	.43	.34	-	-	-	-	-	-
9	.18	.19	.17	.90	.38	.17	.21	.13	-	-	-	-	-
10	.44	.60	.39	.37	.83	.44	.58	.32	.32	-	-	-	-
11	.50	.62	.59	.08	.49	.54	.58	.56	.08	.52	-	-	-
12	.58	.59	.54	.20	.50	.65	.65	.59	.18	.53	.79	-	-
13	.40	.36	.35	.22	.36	.37	.32	.34	.18	.41	.45	.50	-
14	.24	.36	.10	.02	.25	.22	.28	.17	.00	.26	.25	.23	.31
15	.08	.09	.10	-.14	.05	.09	.01	.18	-.12	.00	.06	.02	.12
16	.22	.14	.13	.01	.11	.21	.10	.19	-.01	.10	.13	.11	.24
17	.34	.50	.37	.14	.39	.37	.49	.42	.13	.45	.57	.54	.42
18	.43	.39	.27	.19	.35	.41	.41	.31	.18	.39	.47	.49	.47
19	.25	.32	.28	.22	.33	.28	.29	.29	.22	.30	.31	.31	.29
20	.44	.45	.41	.20	.41	.46	.48	.35	.17	.46	.62	.65	.66
21	.43	.35	.39	.39	.40	.48	.44	.38	.35	.41	.52	.65	.56
22	.53	.57	.43	.17	.49	.59	.61	.44	.16	.54	.65	.70	.50
23	.53	.48	.40	.34	.47	.57	.53	.45	.31	.49	.55	.68	.52
24	.52	.52	.46	.18	.46	.55	.56	.48	.17	.51	.65	.69	.43
25	.48	.40	.38	.37	.44	.55	.47	.44	.34	.45	.50	.64	.48

14	15	16	17	18	19	20	21	22	23	24	25
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
.14	-	-	-	-	-	-	-	-	-	-	-
-.10	.33	-	-	-	-	-	-	-	-	-	-
.26	.13	.14	-	-	-	-	-	-	-	-	-
.25	.10	.15	.38	-	-	-	-	-	-	-	-
.19	.25	.21	.35	.40	-	-	-	-	-	-	-
.23	.04	.19	.51	.45	.26	-	-	-	-	-	-
.12	-.05	.11	.45	.50	.32	.65	-	-	-	-	-
.27	.05	.16	.55	.48	.32	.72	.52	-	-	-	-
.21	-.05	.14	.51	.54	.37	.58	.80	.69	-	-	-
.23	.03	.14	.52	.55	.31	.65	.57	.73	.65	-	-
.16	-.04	.10	.45	.55	.33	.54	.83	.55	.81	.70	-

intellectual domain, energy level attention span and self-control appear to be the highest affective learning items over the years, whereas gross coordination and spatial orientation are rated highest of all intellectual items and these fall within the motor learning system. In general, the lowest ratings on the protocol were shown in the intellectual learning system. Particularly low were means for vocabulary, creativity, abstracting ability, memory and symbolic ability.

The Summary Rating Form contains different specific items within each domain and system from the Behavior Rating Form although some items are similar in orientation to the Behavior Rating Form. Certain new information is obtained in this display. Low ratings for Braille writing ability are possibly a reflection of the low incidence of Braille writing in the sample of children tested. The improvement in both expressive and receptive vocabulary over the years is notable and perhaps most meaningful as are the data with respect to the population characteristics displayed in the mean scores for amount of supervision needed by the children in the various activities of daily living which deteriorate over the three-year period. It is also important to note that the judged scores show that the child's amount of learning and ability to learn increased on the average over the three-year period. The highest single item score is the mean judgment of the ability to learn activities of daily living in the third test administration. In general, the mean scores for the ability to learn seem to fall about one scoring point above of the amount of learning the child demonstrated. This remains consistent across the three years and across the three types of learning (ADL, Formal Structured, and Informal/Social Learning).

Situation comparison. Mean scores for each behavioral domain for all years combined are recorded in Table 35 for each situation in which video taping was conducted.¹ Analysis of variance were performed to test for significance of difference between means of situations for each behavioral domain (Tables 36, 37, and 38). The analysis of variance was significant for each behavioral domain. Duncan Multiple Range Tests for Homogeniety of means are reported for communication, adjustment and learning domains for the eight situations in Tables 39, 40, and 41.

This comparison of means produces an obvious result indicating the extreme similarity of test means for the unstructured situation of the clinical testing situation and the unstructured social situation of the life oriented video tape situations. This similarity of scores and the lack of independence of the two means demonstrated here has particular meaning with reference to test alteration. It is the only pair of means across all domains which is significantly related to the point that it may warrant modification by reduction of one of these two situations from the test. All other means show sufficient variability of relationship with other situation means when compared across the three domains to suggest that they provide independent information with respect to the children which should be viewed as discreet and meaningful from other situation scores.

¹ Mean scores are derived from scoring system devised by Diebold, utilizing missing values as 0. Readers are urged to compare individual children's scores with mean scores and distributions found in the appendix.

Table 35

Mean Judged Scores for Each Situation for Each
 Behavioral Domain for All Subjects
 for All Years

Stimulus	Mean*		
	<u>Communication</u>	<u>Adjustment</u>	<u>Learning</u>
Unstructured	2.04	1.73	1.16
Task	2.37	1.83	1.39
Stimulus	2.74	2.04	1.41
Interpersonal	2.27	1.84	1.76
Eating	2.52	2.06	1.31
Dressing	2.30	1.98	1.32
Classroom	2.44	2.00	1.45
Social	2.04	1.71	1.19

* Score ranges are not identified for each Domain. They are 0-5 for Communication, 0-4 for Adjustment and 0-4 for Learning

Table 36

Analysis of Variance for Mean Judged Scores for the
Communication Domain for All Years on the
Behavior Rating Form Between Situations

Source	df	SS	MS	F
Between Situations	7	150.43	21.49	43.30*
Within Situations	3128	1552.47	0.50	
Total	3135	1702.90		

* Significant 0.000 level

Table 37

Analysis of Variance for Mean Judged Scores for the
Adjustment Domain for All Years on the Behavior
Rating Form Between Situations

Source	df	SS	MS	F
Between Situations	7	50.02	7.15	11.66*
Within Situations	3128	1917.16	0.61	
Total	3135	1967.19		

* Significant 0.000 level

Table 38

Analysis of Variance for Mean Judged Scores for the
Learning Domain for All Years on the Behavior
Rating Form Between Situations

Source	df	SS	MS	F
Between Situations	7	28.89	4.13	10.39*
Within Situations	3128	1242.15	0.40	
Total	3135	1271.04		

* Significant 0.000 level

Table 39

Duncan Multiple Range Homogeneity of Means for Each Situation
for Communication for All Years on the Behavior Rating Form

Situation	Mean ¹
Unstructured	2.04*
Task	2.37 **
Stimulus	2.74 *
Interpersonal	2.27 *
Eating	2.52 *
Dressing/Bathing	2.30 *
Classroom	2.44 **
Social	2.04*

¹ Any two or more means which have asterisks in the same vertical line are not significantly different

Table 40

Duncan Multiple Range Homogeneity of Means for Each Situation
for Adjustment for All Years on the Behavior Rating Form

Situation	Mean ¹
Unstructured	1.73*
Task	1.88 **
Stimulus	2.04 *
Interpersonal	1.84 *
Eating	2.06 *
Dressing/Bathing	1.98 **
Classroom	2.00 *
Social	1.71*

¹ Any two or more means which have asterisks in the same vertical line are not significantly different

Table 41

Duncan Multiple Range Homogeneity of Means for Each Situation
for Learning for All Years on the Behavior Rating Form

Situation	Mean ¹
Unstructured	1.16*
Task	1.39 ***
Stimulus	1.41 **
Interpersonal	1.76 **
Eating	1.31 **
Dressing/Bathing	1.32 ***
Classroom	1.45 *
Social	1.19**

¹ Any two or more means which have asterisks in the same vertical line are not significantly different

Table 42

Pearson Correlation Coefficients for Each Domain in Each Situation for the Behavior Rating Form and Summary Rating Form for All Subjects and All Years

Note that the lowest mean scores for situations were obtained in the unstructured and social situations, whereas the stimulus orientation produced the highest mean score in all behavioral domains. Certain other evidences of anticipated logical consistencies appeared to be evident in these mean comparisons. For example, in the communication domain the classroom situation and task orientation show not significantly different means which one might expect since they are parallels in the two clinical and life orientation halves of the test (Table 39). In the adjustment domain one sees adjustment as lowest in those situations requiring the least interpersonal interaction with the adult or the teacher and highest adjustment scores in those situations calling for direct activity on the part of the adult (Table 40). Comparison of means for the learning domain across situations showed once again that learning is reflected to have the lowest rating at the unstructured and social situations in which at least adult interaction direction occurs, whereas in the task stimulus and classroom activities where those direct activities is highest the child shows the highest amounts of learning. These data should be considered with specific reference not only to displaying weaknesses and strengths of the children but also concerning the importance of the test construction and test batteries to be used with children which do not view them in multiple situations.

Table 42 shows the intercorrelation for domains within and between situations. Earlier inter and intra test correlations have generally been considered important at the .80 level or above. If this criteria level is applied to these intercorrelations it will be noted that comparisons between and within situations and domains generally suggest sufficient independence to warrant continued use of the construct upon which the test is based. Two significant relationships should be observed. First, in all situations, the intercorrelation between adjustment and learning is generally high for the Behavior Rating Form. This finding suggests the possibility of certain revisions in the systems for those two domains.

A second important indication of these intercorrelations is the lack of correlation of the Summary Rating Form with the Behavior Rating Form. This lack of relationship is reasonable and consistent across situations for the three domains. The differences between the items on the two test forms suggest that such differences ought to occur. Since the primary objective of the Behavior Rating Form is to characterize skills and processes based on direct observation and the Summary Rating Form is to indicate broad conceptualizations of supervisory needs, communication skills, and generalized judgment of intelligence, these differences and purposes ought to reflect differences in scores which are independent as shown in the data and suggest clarification needs in the instructions which help the test user in properly applying information obtained.

Result Section Two: Population related data

Appendices F, G, H and I show the distribution of scores for each possible test item showing the relative stability of the item across years and indicating a consistency of missing value across years which shows the difficulty and ease which certain items were available for observation in the samples taken.

With respect to information derived from the Behavior Rating Form the reader should note that in general, communication is more observable than adjustment and that adjustment is more observable than learning when specific items within those three domains are judged. Within the communication domain there seems to have been little change in the general configuration of sensory and expressive primacy although there were clearly evidences of progress within certain items. It is important to note, for example, that auditory reception was viewed at the very lowest level, forty or more percent of the time in all three years, whereas visual reception was found at a usable level from 30 to 40 percent of the time across the three years and tactile reception rose to 47.3% judgments as a usable trait by the third year. Oral expressive skills were found to be in the lowest two categories 70 or more percent of the time in each of the three-year periods. This characterization of the deaf-blind population as having substantially greater vision and hearing abilities should be of considerable importance to those interested in planning for the children's education. Each item of the test when inspected in similar ways provide data of substantial usefulness in the consideration of programmatic issues.

In the adjustment domain, the high incidence of asset rated behavior should lead the reader to inquire as to what keeps children from progressing to a greater degree academically and communicatively when the children are judged to be cooperative, purposeful, manageable, attentive, responsive and active to a degree and in ways which are assets to their participation in testing and life activities. Each item in the affective domain deserves inspection in similar ways.

Within the learning domain certain evidence of considerable importance for future definition of the population and programmatic needs appear to have emerged. It is important to note that the reaction to reward and reaction to punishment which should be part of the normal activities of many of the scenes in which the children were observed were very low, but missing value scores were high indicating the possibility of a great deal of neutral interaction between the teacher, the child and other children. The affective system of the learning domain requires some consideration with respect to item analysis, identified earlier, and the Pearson correlations for domains by situations, all of which suggest the need to consider the reconstruction of the affective domain and the affective system of the learning domain.

The high judgment of asset skills which are motor learning activities should cause some discussion and thinking with respect to the definition of the population and their label classification.

The intellectual learning system of the learning domain clearly suggests the most important problem to be considered with this population. Vocabulary, creativity, problem solving skills, ability to generalize, abstracting ability, seeing relationships, memory and symbolic ability all appear to be essentially missing behavior in the observation of these children in the wide variety of situations previously reported. Those items such as intellectual or high level symbolic learning abilities simply are not a characteristic of this population as a group.

Similar information with respect to the Summary Rating Form (Appendix F, G, H and I) further bears out the above general patterns which should be inspected according to the individual interests and needs of the professionals concerned with definition of the population and program development.

Result Section Three: Sub-sample studies

These projects were conducted during the course of this three-year study using sub-samples of the population or test in order to inquire further into the validity, reliability, meaningfulness and usefulness of the test procedure.

Sub-sample one: Tweedie (1973). The first of these studies had as its purpose to determine whether or not behavioral observation ratings of speech pathologists would closer approximate the ratings of professionals in the communication domain as training and experience increased from student to bachelors degree, masters degree, masters degree plus one year experience in speech pathology, to expert judges from the research project.

The analysis of variance (Table 43) shows statistically non-significant differences "between" the five groups in the ratings of the eight situations for the eight communication items. All main effects and interactions within groups, however, were significant. The main effects for situation, item, and the interaction of situation by item were significant at the .001 level; the interaction of group, situation, and item was significant at the .01 level; the situation by group by item was significant at the .05 level.

Table 44 presents means of the 75 judges by group, situation, and item.

In summary, Tweedie reports four groups of judges with varying degrees of minimal professional training and with minimal (1 hour) test judge training will report scores not significantly different from experts on the communication domain of the Behavior Rating Form. A positive finding, bearing on the inter-judge reliability of the procedure.

His data further substantiate the independence of both the items of the Behavior Rating Form and situations of the evaluation procedure.

If agreement between groups of judges indicates test stability and if independence of items suggests a usefulness of items and if independence of situations suggests the ability of the test to see the child more thoroughly, then these are advantageous findings for the Telediagnostic Protocol.

Sub-sample two: Diebold (1975). This study attempted to pursue certain relationships between the telediagnostic behavioral rating procedure and a battery of "standardized" psychometric procedures as used in the more traditional team testing approach to deaf-blind children.

Table 43

Analysis of Variance for the Mean Judged Scores from Judged
 Groups in the Eight Situations for the Eight
 Communication Items

Category	Sum of squares	df	Mean square	F
Between Groups				
Groups (G)	125.29	4	31.32	2.43
Error (R:G)	901.77	70	12.88	
Within Groups				
Situation (S)	89.20	7	12.74	10.49*
Situation X Group	56.66	28	2.02	1.67*
Error (SR:G)	595.11	490	1.21	
Item	2039.59	7	291.37	109.79*
Groups X Item	120.45	28	4.30	1.62*
Error RM (G)	1300.41	490	2.65	
Situation X Item	291.98	49	18.81	39.84*
Groups X Situation				
X Item	146.31	196	0.75	1.58*
Error (SRM:G)	1619.99	3430	0.47	

* Significant

Table 44

Means for Communication Ratings for
Groups, Situations, and Items

Main effect	Mean
Respondent Group	
Expert Judges	3.18
M.Ed. + 1 experience Speech Pathology	2.95
M.Ed. Speech Pathology	2.81
B.Ed. Speech Pathology	2.80
Naive (no professional training)	3.15
Test Situation*	
unstructured	2.74
task orientation	3.09
interpersonal	3.01
stimulus orientation	2.78
ADL I: eating	3.03
ADL II: washing	2.96
formal learning	3.06
informal social	3.15
Test Item*	
auditory reception	3.71
visual reception	2.81
tactile reception	3.87
gustatory/olfactory reception	1.81
object centered communication	3.32
people centered communication	2.93
tactile/motor expression	3.12
oral expression	2.26

* Significant

Fifty percent of the project population were compared on their scores for the Telediagnostic Protocol and scores on the following test battery administered by staff of the Peabody College Child Study Center. The tests were:

1. Cattell Infant Intelligence Scale¹
(mental age)
2. Receptive-Expressive Emergent Language Scale²
(receptive language age and expressive language age)
3. Peabody Developmental Motor Scale
(fine motor age, gross motor age)
4. Maxfield-Buchholtz Scale of Social Maturity

The mean and range of scores for each system of the Telediagnostic Protocol and each test of the child study center battery is shown in Figure III in terms of percent of possible score. In general, means and ranges appear to be slightly higher and dispersion appears to be more homogeneous for the Telediagnostic Protocol. If the above findings are desirable features of a psychometric procedure, they contribute to the value of the Telediagnostic Protocol as a test tool.

Intercorrelations for the systems of the Telediagnostic Protocol (Table 45) are generally high, however only intercorrelation of two items of the 21 are extremely high. One is the adjustment domain score (ADJ) and the affective learning system scores (ALS) at .98. This corroborates the intercorrelation data reported earlier (Table 42) in this report showing the highest within situations variability to be between adjustment and learning domains. Some possible loading of learning domain scores may be possible due to the similarity of items for the affective domain and the adjustment learning system and may suggest test revisions to be discussed later. Reason suggests that input and output communication scores with a correlation of .95 not be considered duplicative since a high correlation is expected between these two systems but their variability by mean level is important information.

By contrast 10 of 15 of the intercorrelations of child study center test battery (Table 46) are extremely high at .90 or higher and are distributed through each row and column of the intercorrelation matrix suggesting a very high inter-relationship of scores. The social age score of the Maxfield-Buchholtz scale alone correlates at .90 or higher with every other test of the CSC Battery.

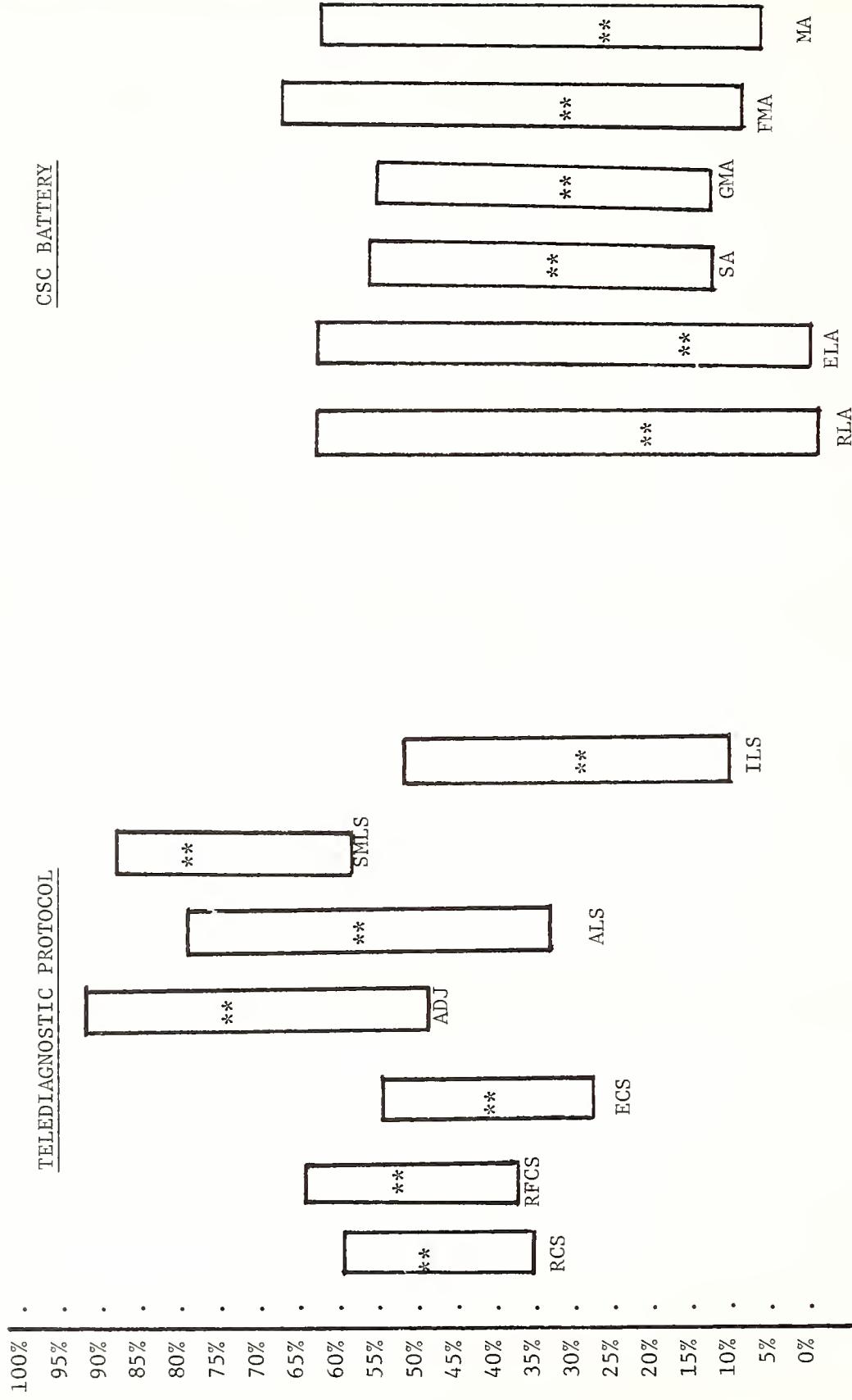
¹ In four instances in which evaluators believed a subject's cognitive functioning exceed the ceiling on the CIIS, the Stanford-Binet, Form L-M was administered.

² In six instances in which evaluators believed a subject's language functioning exceeded the limits of the REEL, the Preschool Language Scale (PLS) was administered.

Figure III

Mean and Range of Group Performance Expressed in Percent,
for Each TDP and CSC Variable*

TELEDIAGNOSTIC PROTOCOL



* TDP = Telediagnostic Protocol, CSC = Child Study Center Test Battery
** Mean

Table 45

**Inter-correlations for System Scores on the Telediagnostic
Protocol Behavior Rating Form**

Variable	TDP-RFCS	TDP-ECS	TDP-ADJ	TDP-ALS	TDP-SMLS	TDP-ILS
TDP-RCS	.95*	.80*	.82*	.84*	.72*	.81*
TDP-RFCS		.76*	.84*	.86*	.74*	.83*
TDP-ECS			.54	.58	.53	.63
TDP-ADJ				.98*	.62	.83*
TDP-ALS					.63	.83*
TDP-SMLS						.58

* Correlation coefficients which accounted for more than 50% of the variance associated with the relationship between the two variables

Table 46

**Inter-correlations for Child Study Center
Psychometric Test Scores**

Variable	CSC-ELA	CSC-SA	CSC-GMA	CSC-FMA	CSC-MA
CSC-RLA	.97*	.92*	.86*	.88*	.96*
CSC-ELA		.90*	.82*	.83*	.92*
CSC-SA			.90*	.94*	.90*
CSC-GMA				.95*	.88*
CSC-FMA					.91*

* Correlation Coefficients which accounted for more than 50% of the variance associated with the relationship between the two variables

If independence of test systems or test domains is important as an indicator of the amount of new information contributed by each test then certain values for the Telediagnostic Protocol are suggested as a way of showing more about the child.

When intercorrelations for the Telediagnostic Protocol scores for its three domains of communication, adjustment and Learning are compared with and between those for the four test domains of the Peabody Child Study Center test battery: Social Age, Language Age, Motor Age and Mental Age, the results are shown in Table 47.

One of six relationships, for learning and adjustment, on the Telediagnostic Protocol is shown in the table to be very highly correlated (.91) while five of six intercorrelations are very highly correlated for the CSC battery (.90 to .94).

Again, if these intercorrelations are an indicator of the amount of new and independent information contributed by each domain of the TDP or each test of CSC the Telediagnostic Protocol seems to have a certain usefulness suggested.

An objective of the test construction plan was to create an instrument on which variability of scoring by judges could be possible yet produce a single mean score of valid relationshp with other tests. Diebold tested the hypothesis of no difference between judges and ANOVA for each system of the Behavior Rating Form. He rejected the hypothesis of no judge differences for the receptive communication, referent communication, expressive communication, adjustment and intellectual learning at the .001 level indicating that variability of judgments did occur for these systems. Judges showed homogeneity for affective learning and motor learning. These findings support the intent of the project since judge variability can occur and yet produce mean scores statistically significantly related to other measures of the child's behavior.

The removal of the affective learning system and the inclusion of some of its items in the affective domain is further suggested by this result. The motor system score would appear to be a feature of subject inclusion criteria - mobility - which led to a high agreement of judges for this population but may be valuable for lower groups.

The validity of both approaches to the population is supported by the reasonable intercorrelations between the tests within the batteries.

Sub-sample three: Stritmater (1976). This project had as its objective the comparison of Telediagnostic Protocol scores for 50% of the project population and psychometric scores from the Peabody Child Study Center test battery (both of which were compared by Diebold in the previous study) with the individual child's teachers' rating of his behavior on the Behavior Rating and Summary Rating Forms of the Telediagnostic Protocol. The teachers were assisted in completing the protocol in a face to face administration by the experimenter.

Table 47

Inter-correlation for All Scores on Behavior Rating Form
Domain Scores and Child Study Center Test Scores

Variable	TDP-ADJ	TDP-LRN	CSC-LANG	CSC-SA	CSC-MOT	CSC-MA
TDP-COM	.78*	.87*	.57	.63	.64	.61
TDP-ADJ		.91*	.67	.76*	.75*	.74*
TDP-LRN			.57	.64	.68	.70*
CSC-LANG				.92*	.87*	.94*
CSC-SA					.93*	.90*
CSC-MOT						.91*

* Correlation coefficients which account for approximately 50% or more of the variance associated with the relationship between the two variables

Canonical correlations and their level of significance for the Behavior Rating Forms scored by the project judges and the Behavior Rating Forms that were scored by the teachers are shown in Table 48. All are statistically significant. If the relationship indicated between the psychometric procedures and the Behavior Rating Forms and the teacher rating as determined through the Behavior Rating Form is an indicator of the validity of the test then the value of the Telediagnostic Protocol is further established. Tables 49 and 50 show correlation matrices for test domains of the Telediagnostic Protocol for teacher judgments and project judgments on the Behavior Rating Form and Summary Rating Form respectively. In both instances it appears that communication, adjustment and learning, in that order, showed decreasing relationships. The highest degree of relationship in both rating forms seems to exist in the communication domain whereas learning appears as the lowest intercorrelation between teachers and project judges. The Summary Rating Form appears to have a higher relationship between teachers and project judges than the Behavior Rating Form in these intercorrelations.

Tables 51 and 52 report the correlations between teacher judgments for behavioral domains and Peabody Child Study Center psychometric test scores for the Behavior Rating Form and Summary Rating Form respectively. In general the relationship of a previous comparison obtain. Specifically, communication, adjustment and learning showed decreasing relationships in that order. In general, communication is the behavioral domain judged by the teachers as the variable which is most highly correlated with psychometric test scores. Learning behavioral judgments appear to have the lowest relationship to test scores on the psychometric battery. And as in the previous case the Summary Rating Form correlates more highly with the psychometric test battery than does the Behavior Rating Form when the former is completed by teachers.

If the teachers who know the child well is perceived by the reader to be a prime referent in the establishment of validity of tests then the statistically significant correlations would indicate some validity of the Behavior Rating Form, the Summary Rating Form and standard psychometrics. For example, the Summary Rating Form of teacher judgments shows correlation of .89 with the Summary Rating Form of project judges and a .90 in the psychometric test scores; both correlations significant at the .000+¹ level. The author presents further discussion of domain factors contributing to the relationship. It seems interesting and important to note that the Summary Rating Form which was constructed and intended as a situation free summary bears the highest relationship as opposed to the Behavior Rating Form completed by the teachers which was intended to be situation related. Since the preliminary model of the test developers is borne out in this indicator, it may further substantiate the value of the test.

¹ Computer does not report beyond .000 significance level.

Table 48

Canonical Correlations for Project Judged Scores, Teacher
Judged Scores and Psychometric Test Scores

Variables	Correlation	Chi-square	df	P
Tchr. BRF vs. Proj. BRF	.73	21.28	9	.01
Tchr. BRF vs. Psyc. Test	.84	26.38	12	.009
Tchr. SRF vs. Proj. SRF	.89	34.40	9	.000
Tchr. SRF vs. Psyc. Test	.90	39.04	12	.000
Tchr. BRF vs. Tchr. SRF	.94	45.97	9	.000

BRF = Behavior Rating Form, SRF = Summary Rating Form

Table 49

Correlation Matrix for Teacher Judgment Scores and Project
 Judged Score for Each Behavioral Domain
of the Behavior Rating Form

Project Judgment	Teacher Judgment		
	Communication	Adjustment	Learning
Communication	.66	.47	.31
Adjustment	.59	.63	.23
Learning	.67	.61	.32

Table 50

Correlation Matrix for Teacher Judgment Scores and Project
 Judged Score for Each Behavioral Domain
of the Summary Rating Form

Project Judgment	Teacher Judgment		
	Communication	Adjustment	Learning
Communication	.86	.74	.65
Adjustment	.64	.54	.52
Learning	.72	.61	.50

Table 51

Correlation Matrix for Teacher Judged Scores and Psychometric
Test Scores for Each Behavioral Domain on
the Behavior Rating Form

Test	Teacher Judgment		
	Communication	Adjustment	Learning
Language Age	.73	.62	.38
Social Age	.70	.66	.36
Motor Age	.71	.72	.45
Mental Age	.75	.69	.40

Table 52

Correlation Matrix for Teacher Judged Scores and Psychometric
Test Scores for Each Behavioral Domain on
the Summary Rating Form

Test	Teacher Judgment		
	Communication	Adjustment	Learning
Language Age	.83	.74	.69
Social Age	.84	.77	.72
Motor Age	.84	.79	.78
Mental Age	.82	.79	.69

Table 53

Mean Judged Project Scores for Each Behavioral Situation for Each Behavior Domain and Mean Judged Score for Teacher for Each Behavior Domain on the Behavior Rating Form

Situations	Behavioral Domain		
	Communication	Adjustment	Learning
Unstructured	2.11	1.93	1.34
Task	2.40	2.25	1.69
Stimulus	2.68	2.35	1.68
Interpersonal	2.38	2.12	1.54
ADL	2.39	2.31	1.48
Eating	2.33	2.36	1.64
Formal learning	2.51	2.26	1.78
Informal/Social	2.07	2.00	1.41
Mean Score for Teachers	3.25	2.10	2.58

Table 54

Canonical Correlations for Mean Judged Project Scores for Each Situation on the Behavior Rating Form and Teacher Judged Scores on the Behavior Rating Form

Situation	Correlation	Significance Level
Unstructured	.47	NS
Task	.79	.003
Stimulus	.79	.002
Interpersonal	.83	.001
ADL	.69	NS
Eating	.60	NS
Formal learning	.62	NS
Informal/Social	.48	NS

In a comparison of situation mean scores by domain with Behavior Rating Form scores for teachers, several items of interest emerge. First, it should be noted that the teachers invariably rated the children higher overall than they were perceived on any situation by the judges of the project. This held true for each domain. The previously indicated importance of the stimulus situation in identifying higher level behavior in the children is demonstrated by the study wherein it is the highest situation score for communication and is closest to the elevated score of the teachers. It is of interest that the closest score to the teachers' adjustment rating for the children occurred in the interpersonal situation. It should be noted that the few instances in which project judges scored children higher than teacher judgments was the adjustment domain where every situation showed the child higher than the project judges ratings except the unstructured and informal social situations, both of which were lower and both of which have previously been identified as non-independent situations. It is especially interesting that the teachers rate the children higher in learning behavior than the judges do in any single situation. It seems somewhat supportive of the value of the Telediagnostic Protocol when it is noted that the single situation in which learning as judged by the project judges most closely approximates teachers' scores is in the formal learning (classroom) situation.

The logical consistency demonstrated by the close relationship of the teachers' communication judgment to the child's performance in the stimulus situation, the teachers' adjustment score for the child and the child performance in the inter-personal situation and the teachers' learning score being most closely related to the judges' score for the child in the classroom would seem to contribute in logical ways to the establishment of the values of the Telediagnostic Protocol.

Table 52 shows the correlations for the teachers' Behavior Rating Form score for the child compared with each situation score from the project judges. It is extremely interesting to note that the correlation is only significant in three instances and that all three of these instances are in the first four or clinical scenes of the Telediagnostic Protocol. The relationship of the teachers' judgments to standardized testing is slightly higher although not significantly greater than those for the Telediagnostic Protocol scored by project judges. Apparently teachers' judgments of the child relate most closely to his performance in those situations in which a more direct stimulation occurs as in situations two, three and four of the Telediagnostic Protocol and psychometric tests. The teacher scores are less related to those test features nearer life measurements.

Conclusion

It is the opinion of the test constructors that the behavioral evaluation procedure developed here has been established as a credible psycho-educational test instrument for severely multi-handicapped children. Specific results which lead to this conclusion are as follows:

1. An objective of test construction was to develop a device which would demonstrate that children differ in their behavior as the situation in which they are tested changes. Evidence has been presented which indicates a statistically significant difference in performance of children in varying situations as well as the order and degree of performance in each of the situations.

2. It was the objective of the researchers to construct a test which compared traditional clinical testing procedures with test procedures in life situations. The split-half comparison reported indicated a statistically significant correlation between the two test halves. It was further established that within this correlation there were statistically significant variabilities within behavioral domains which would suggest diagnostic values of the two halves.

3. It was an objective of the researchers to develop an instrument which would have sufficient sensitivity to show change over time for the children tested. Statistically significant differences in mean scores between years indicate at what point in the three test administrations over the three-year period the test scores changed and the direction of change. Although the test was sufficiently sensitive to show general growth in the population throughout the two years of training in each of the domains sampled it was possible for the individual child's scores to show either growth or regression on the test items or systems or domains.

4. It was the objective of the researchers to construct a test whose items would be sufficiently independent, to each contribute useful or new or independent or more information to the total battery. The item correlations reported indicate the varying degrees of relationship or items within the test. It is an important feature of the test that intercorrelation between systems as shown in Diebold's sub-sample are sufficiently high and are statistically significant to the point that they indicate expected relationships between these features whereas intercorrelations between items are sufficiently low to suggest independent values in their contribution to the diagnostic profile of the child.

5. It was the objective of the researchers to create a test which while showing the child's behavior directly through video taped samples to a viewer, would at the same time be scorable in a manner bearing a valid relationship to other testing procedures employed in the traditional team

testing paradigm. Diebold's sub-sample results indicate the statistically significant relationship between the domains and systems of the behavioral evaluation procedure and a recognized psychometric battery applied to the same population by independent testors.

6. It was the objective of the researchers to develop a test which would provide an opportunity for the children at this very low functioning level to show higher levels of achievement and greater homogeneity of performance than is allowed by traditionally psychometric procedures. Diebold's sub-sample study displays evidence illustrating this effect.

7. It was the objective of the researchers to develop a test which would bear some valid relationship to the opinion of the teachers with respect to the behavioral characteristics of the children. Stritmater's sub-sample study indicates a statistically significant relationship between teachers' judgments of the childrens behavior and scores on the behavioral evaluation procedure by independent project judges.

8. It was the objective of the researchers to construct a test which would make it possible for observers with various professional backgrounds and varying degrees of experience and with minimal test training to see and rate identifiable behavioral traits within a framework which produce an opportunity for mean consistency of judgment and at the same time allow for variability of independent judges opinions. The sub-sample results of Tweedie as well as results from the preliminary three-year study and Diebold's sub-sample study indicate statistically significant differences within judges but no statistically significant differences between mean judged scores for children on this and other criterion tests such as the Child Study Center Battery or teacher ratings, allowing for satisfactory accomplishment of both objectives. Tweedie established that professionals with varying degrees of backgrounds can score the test with no statistically significant differences in their scores. There were however, significant differences around the mean for individuals within judged groups indicating that degrees of flexibility based on individual perceptions are possible within the construct.

9. It was the objective of the researchers to refine the previously constructed test to eliminate items which might be redundant or contribute no new information within the test battery. Based on information reported above for correlation of means for domains and correlation of test items and findings with respect to the interaction patterns of the children, adults, and other children with adults and the environment, certain changes are suggested in the behavioral evaluation form. These changes are shown in the revised form attached. They include:

- a. The combining of the affective system of the learning domain with the affective domain which appears from both domain analysis and item analysis to have been raising the intercorrelation of these two features based on the high correlation of certain items without contributing new information to the test.

- b. The combining of certain categories within the interaction system due to the extraordinarily high incidences of certain categories and the extremely low incidences of certain other patterns.
- c. Alterations of the Summary Rating Form to remove items specific to Braille which occurred with such low frequency as to be irrelevant to the population and at the same time reduced the applicability of the test for a much larger population of severely and profoundly handicapped children.
- d. The inclusion of a Behavior Rating Form and Summary Rating Form for completion by teachers or parents based on the data obtained by Stritmater in her sub-sample study to show the relationship between these scores and scores obtained by the independent observers.
- e. The development of a scoring system based on the sub-sample reporting of Diebold primarily for the purposes of statistical establishment of validity and reliability features as undertaken here and for purposes of comparison of groups of children and in other instances when scoring might contribute to the measurement of the population. The authors have not changed their fundamental view that the profile of the child as seen on the video tapes and scored on the items of the test is of infinitely greater value than the single score sometimes desirable for population study.
- f. Situation number one was eliminated from the protocol due to consistent evidence indicating its high correlation with situation eight and consistent evidence of non-statistically significant differences from situation eight in all domains. All other situations were retained due to their apparent independence.
- g. The final project result is the revised Telediagnostic Protocol, Instructions, Behavior Rating Forms and Summary Rating Forms and Informant Interview Forms. A copy of the final test accompanies this report.

Recommendation for Further Research

Project results inevitably generate new ideas for future investigation as well as new information with respect to the original undertaking.

Obviously, a substantial data bank of information on deaf-blind children has been accumulated during this project. Relatively inexpensive future research which can be recommended is the further exploitation, interpretation and statistical analysis of data contained within the currently available computerized data. For example, no information with respect to age was analyzed or reported in this project. With each child now studied at three-year age intervals certain information may be obtained regarding behavior by age classifications, however, because of the extreme heterogeneity of the population age related study should be undertaken with caution. Certain information may be carefully extracted which could bear on the developmental testing as compared with criterion reference testing with profoundly handicapped children.

Similarly, data having to do with etiology, health, type and time and amount of educational intervention and such other basic factors might be correlated with the data obtained from the project should be explored.

Going one step beyond the available information already computerized for retrieval is the possibility of a wide range of research which can be accomplished through the use of the video taped samples which are available for further analysis. One might wish to inspect the tape samples for self-stimulating behaviors which have been considered a problem of deaf-blind children or to review the tapes to look into the nature of the vocabulary of deaf-blind children on a word and concept analysis system. Teacher behavior might be analyzed instead of child behavior in the various samples. Sociometric interaction patterns of the children in group situations might provide interesting information if analyzed.

Motor behavior was not studied to any great extent in these video tapes although extensive samples of motor behavior are available for observation within the scenes. It is possible that motor performance is a fourth behavioral domain which should be explored in the future with the development of an appropriate rating scale and re-evaluation of the tapes on new dimensions.

Since many of the alternative assessment procedures applied to the children are child development ratings, it would seem appropriate to attempt to score such tools as the Denver Scale, the Bailey Scale, etc., through these video tapes to see if, in fact, a developmental profile can be accurately prepared from telediagnostic protocol behavior samples.

It is extremely important, in the near future, to develop operational procedures for program planning based on characteristics of the children derived from these behavioral samples. So many tests which offer only a score or check mark with respect to two or three narrowly identified behavioral items are of little value after administration with respect to particular programmatic needs of the child, and yet, reinspection of the video tapes offers a sizable sample of behavior for suggesting needed work, particularly in such areas as human inter-relationships, self-stimulating and self-directive behaviors, vocabulary growth and motor development skills.

Another set of research needs suggested by these activities of the past few years calls for the further development of a comprehensive evaluation profile for deaf-blind children which can be utilized within the regional centers of service or testing programs so that a large central bank of information can be accumulated about children. Certainly it seems appropriate to suggest a conference of testing personnel to plan a multi-faceted evaluation program perhaps on a regional basis to produce a vast data bank for the determination of those test features from stand-ardized psychometrics, child development schedules, sensory tests, be-havioral observation procedures, teacher rating scales and other significant measures which might ultimately lead to a clearer indication of those test features which are most productive for immediate planning and most predictive of future behavior patterns in the population. Certainly the data would produce a clear picture of parameters of the population in a relatively short time.

Perhaps this series of projects reviewed here presents the most data currently available on the deaf-blind child, including these be-havioral characteristics of the children, psychometric test results, (Diebold, 1975), teacher rating (Stritmater, 1976) and certain earlier information on medical and family traits (Curtis and Donlon, 1969). We seem to have less information on teachers, teaching procedures and program features than on the children themselves. If a priority could be specified, it would appear that a large undertaking of some importance would be the appraisal of teacher competence with respect to the population parameters already identified.

The data obtained in this report suggest that the term "deaf-blind" is perhaps inappropriate to the population which was identified as deaf-blind. Most prudent investigators inspecting the data would have to say that at this point the population could be called trainable, severely hearing impaired children with impaired but usable vision. Certainly research is in order which will assist in the delineation of children who are truly deaf-blind from those who are retarded blind, retarded deaf, sensorily impaired with severe emotional disabilities, and sensorily impaired with severe neurological problems. Terminology and classi-fication of the children could and does have major effects on educational planning and should not be ignored further. Definition by exclusion no longer seems necessary or adequate.

A fifth area of research suggests that information which has been gained on this behavioral observation technique with the deaf-blind is easily and obviously translated to evaluation procedures for the severely and profoundly handicapped. The evidence presented with respect to validity, reliability and usefulness of this procedure should provide sufficient scientific credibility for behavioral observation techniques with low level populations so that the technique can be applied to other groups.

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Appendix A

Pertinent tables from Curtis and Donlon, 1972,
illustrating percentage distribution of judged
behaviors of deaf-blind children or the pre-
liminary form of the Telediagnostic Protocol

Table 5

Patterns of Interaction of Subjects, Children, Adults
and Objects in Two Activities of Daily Living

Agent	Initiator	Mediator	Recipient
The Subject	18.8	.7	87.0
A Child, Children	8.8	.3	5.1
An Adult, Group of Adults	68.2	2.0	4.8
Mixed Group	2.4	1.4	0.0
An Object, Group of Objects	1.8	95.6	3.1

Table 6

Patterns of Interaction of Subjects, Children, Adults
and Objects in Two Informal Situations

Agent	Initiator	Mediator	Recipient
The Subject	31.1	1.4	69.0
A Child, Children	18.6	3.2	15.9
An Adult, Group of Adults	42.1	1.4	7.5
Mixed Group	4.3	.9	2.1
An Object, Group of Objects	4.0	93.2	5.4

Table 7

Patterns of Interaction of Subjects, Children, Adults
and Objects in Two Formal Situations

Agent	Initiator	Mediator	Recipient
The Subject	11.5	3.4	84.1
A Child, Children	2.5	.4	5.0
An Adult, Group of Adults	77.7	.1	3.7
Mixed Group	2.2	.4	0.0
An Object, Group of Objects	6.1	94.7	7.2

Table 8

70

Attributes Displayed by 20 Children in Two Activities of Daily Living Situations, Expressed as a Percent of Behavior Rated

Attribute	Rating	
	Desirable	Undesirable
Cooperativeness	84.3	15.7
Purposefulness	76.3	23.7
Manageability	89.1	10.9
Independence	67.4	32.6
Attentiveness	72.4	27.6
Responsiveness	73.1	26.9
Flexibility	76.5	23.5
Persistence	64.2	35.8
Physical Activity	71.4	28.6
Curiosity	70.9	29.1

Table 9

Attributes Displayed by 20 Children in Two Informal Situations, Expressed as a Percent of Behavior Rated

Attribute	Rating	
	Desirable	Undesirable
Cooperativeness	82.7	17.3
Purposefulness	63.7	36.3
Manageability	89.7	10.3
Independence	64.8	35.2
Attentiveness	68.2	31.8
Responsiveness	72.2	27.8
Flexibility	69.5	30.5
Persistence	62.4	37.6
Physical Activity	68.7	31.3
Curiosity	76.0	24.0

Table 10

Attributes Displayed by 20 Children in Two Formal Situations, Expressed as a Percent of Behavior Rated

Attribute	Rating	
	Desirable	Undesirable
Cooperativeness	84.4	15.6
Purposefulness	70.9	29.0
Manageability	92.5	07.5
Independence	61.3	38.7
Attentiveness	76.0	24.0
Responsiveness	72.8	27.2
Flexibility	72.1	27.9
Persistence	61.5	38.5
Physical Activity	65.4	34.6
Curiosity	72.6	27.4

Table 11
The Effect of Sensory Avenues on Learning

Modality	Percent Observation				
	Learning	Deterrent	Neutral	Skill	Learning Asset
Vision	25		8		67
Audition	30		26		44
Tactile/Kinesthetic	10		11		79
Tactile/Motor	17		11		72
Oral	51		35		14

Table 12
The Effect of Situations, People and Tasks on Learning

Condition	Percent Observation				
	Learning	Deterrent	Neutral	Skill	Learning Asset
Situation					
Social	15		22		63
Academic	11		54		35
Alone	14		61		25
People					
With Adults	15		19		66
With Peers	9		76		15
Task					
ADL	8		53		39
Academic	11		51		58
Play	14		37		49

Table 13

The Effect of Para-Intellectual
Skills on Learning

Para-Intellectual Skills	Percent Observation			
	Learning	Deterrent	Neutral Skill	Learning Asset
Affective				
Curiosity	18	25	57	
Flexibility	21	30	49	
Perserverence	29	28	43	
Attention Span	25	18	57	
Reaction to Reward	4	66	30	
Reaction to Punishment	5	84	11	
Self Concept	20	47	33	
Energy Level	25	24	51	
Sense of Humor	8	59	33	
Motivation and Interest	26	18	56	
Self Control	20	25	55	
Sensory Motor				
Mobility	11	33	56	
Coordination	13	12	75	
Sensory Discrimination	14	24	62	
Spatial Orientation	12	18	70	
Eye-Hand Coordination	16	18	66	
Intellectual				
Vocabulary	41	50	9	
Creativity	27	61	12	
Problem Solving Skill	20	41	39	
Ability to Generalize	12	50	38	
Abstracting Ability	9	75	16	
Ability to See Relationships	11	34	55	
Memory	8	53	39	
Symbolic Ability	7	75	18	

Appendix B

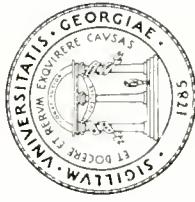
Telediagnostic Protocol:

**Instructions
Behavior Rating Form
Summary Rating Form**

MULTIPLE DISABILITIES PROJECT

TELEDIAGNOSTIC PROTOCOL BEHAVIOR RATING FORM

Communication- Adjustment- Learning



W. Scott Curtis & Edward T. Donlon

This procedure is being developed through research support from the U. S. Office of Education: Inquire, W. Scott Curtis, Alderhold Hall, University of Georgia, Athens, Georgia 30602

BEHAVIOR RATING FORM

COMMUNICATION ADJUSTMENT LEARNING

INSTRUCTIONS

The videotape telediagnostic protocol was developed to aid in the early identification and evaluation of deaf-blind children and to assist in reporting observational data about such children for clinical, research and teaching purposes.

The protocol consists of the following specific procedures for videotaping and judgmental behavior rating. First, the subject is videotaped in eight 3-minute segments as specified. Second, the videotape is viewed and judged by one or more examiners who are part of the psycho-educational evaluation team. Third, the ratings become a profile of the child's communication, adjustment and learning skills which can be averaged and used as a consensus profile for the child's record or as an index to aid future viewers of the videotape.

Although this procedure was designed to be used as a flexible tool, it was constructed with the following procedural plan in mind.

The Subject. The child to be studied through this technique should be between the ages of three and eight years; he should be a member of the group known as severely multi-sensorily handicapped; he should be under evaluation to determine if he is a legitimate candidate for admission to a deaf-blind program. Ordinarily, this procedure is applied when a child shows such low levels of response on traditional psychological, educational, speech, hearing and vision tests that results neither provide a satisfactory base for characterizing the child as he is now nor permit reasonable prognostication.

Videotaping Procedure. A portable videotape recorder with camera-mounted microphone and zoom lens is the preferred equipment. Prior to videotaping, the conditions under which taping will be done should be inspected by the cameraman to be certain of quality recordings. Precautions mentioned in the final report should be observed to enhance the quality of the videotape recording.

The photographer should be a professional in the psycho-educational field since some of the effectiveness of the procedure undoubtedly rests on decisions made by the photographer as he chooses scenes to film and selects aspects of each scene to emphasize. The photographer's job is to try and characterize the child's real day through these brief scenes. Ordinarily, when a scene has been selected, it is photographed continuously for the time limit specified.

When videotaping, the examiner and photographer should comment on unseen events which are occurring in the videotaping situation. For example, if a strong odor is present it should be reported; if a sound or visual stimulation occurs in the nearby area but off camera it may be noted since the judges may wish to consider any such event as a stimulus for the activities of the child.

The child's schedule for the day should be known to the examiner and photographer who will prepare a videotaping schedule which should encompass the eight required scenes.

Behavioral Stimulation Procedures. The following eight brief situations have been selected by the research and conference process as useful conditions in which to observe and videotape.

A. Clinical Scenes.

1. Unstructured Orientation (3 minutes); the child and examiner are alone in a relatively empty room. The examiner merely reacts.
2. Task Orientation (3 minutes); the examiner attempts to conduct basic traditional psycho-educational testing procedures near the child's ceiling.
3. Stimulus Orientation (3 minutes); the child is bombarded with stimuli at varied intensities and through many avenues simultaneously.

4. Interpersonal Orientation (3 minutes); the examiner persists in close physical contact such as holding, touching, and fondling the child.

B. Life Situations.

1. Activity of daily living situation (3 minutes); the child is shown at bathing or dressing or toileting or self-care.
2. Eating Situation (3 minutes); the child is shown at his meal time.
3. Formal Learning Situation (3 minutes); the child is shown in class or at a lesson with a familiar person.
4. Informal-Social Situation (3 minutes); the child is shown at play or during free times.

The first four are the clinical situations (Unstructured, Task, Stimulus, and Interpersonal Orientations). There is no necessary required order for videotaping or judging the eight sequences of the protocol, with the exception that the four clinical scenes identified in the behavior rating forms are more easily photographed as a group in the order shown. The second four life situations (Formal, ADL, Meals, and informal) should be videotaped as they occur in the child's day. The four life situation scenes can usually be most expeditiously videotaped by arriving at the site as the child arises. We have found that in most institutions as the child arises it is possible to videotape him dressing, toileting and/or bathing; following which, he has a short informal social period representing a second situation. He then has breakfast, representing the third situation; following which he goes to his first formal class of the day, representing the fourth 'life' situation. If this opportunity is not available those four life situations may be videotaped at any point in the day. If one is familiar with the children and situation and arrives properly prepared at the proper time, the entire videotaped sequence can be prepared in less than one hour per child.

Judging. Any number of judges may view the tape and judge simultaneously although their reactions should be independent. The judges need only be aware of the child's age.

Viewers should not be afraid to make judgments on behavior and activities for which they are not an expert. The classroom teacher may be reticent to rate some aspects of communicative skills; the speech therapist may be concerned about his ability to rate affective para-intellectual skills. Many judges will be unfamiliar with the "relationship pattern" rating procedure. In such cases be concerned; but try. It is our experience that after a short time using the forms, judges become remarkably adept at interpreting what they see and its meaning with respect to categories on the form. And, in the learning process the judges enhance their ability to share and communicate with other members of the evaluation team.

Judges may rate as they view or following the viewing of each scene. They are free to review within the scene and should change ratings on a given situation as necessary to arrive at the best rating to convey their observations.

Ratings may be highly variable from situation to situation. Normal communicative behavior may be seen in one scene and a very low level of communicative behavior in the next scene for the same child. Rate what occurs in each scene. It is only at the conclusion of the eight observations that judges are permitted to make a synthesized judgment of the child's ability from observation scores for all scenes.

The best way to learn to judge is to rate a child's tape which has been pre-

judged by several more experienced workers and to compare and discuss ratings with these criteria.

Using the Behavior Rating Forms

Judging Communication. The ratings require reaction to a five point scale from behavior which is "absent" to that which is "satisfactory." Think of the breadth of the scale as 100 per cent and make decisions as to a category from 1 to 5 on that basis. If the words "primitive," "emergent" or "usable" are of assistance it is only as guidelines rather than absolutes. They are generally defined as follows:

Category 1, "absent," means that an opportunity to observe this behavior was present but the behavior did not occur. For example, if a loud sound occurs in a room or the child's name is called, one has an opportunity to observe hearing. If no hearing occurs, one would indicate auditory reception as level 1, that is, "absent."

Category 2, "primitive," refers to behaviors that are primarily reflexive, vegetative or such infantile skills as often occur prior to six months age. Crying, coughing and choking are evidences of oral expression which are reflexive. Therefore, when such primitive oral communicative behavior is observed, it would be rated as level 2, "primitive."

Category 3, "emergent," represents behavior above the primitive level which is developmental evidence of progress beyond primitive reflexive behavior - beyond the level of reflexive and vegetative behavior. Such things as babbling, such behavior in vision as eye-hand play, such tactile-motor skills as putting things in the mouth would represent emergent learned behavior. The criteria for distinguishing between "emergent" and "usable" is that emergent behavior shows evidence of a desirable future skill which is sufficiently present to warrant developmental aid and teaching to develop that skill.

Category 4, "usable," represents behavior which is sufficiently developed that although it may need considerable improvement, it is a behavior which can at the moment be capitalized on in developing and teaching other skills.

Category 5, "satisfactory," is checked when a child's skill is satisfactory in that modality for his age level. It does not mean that he is normal with respect to non-handicapped children, nor average nor better with respect to his own peer group of handicapped children.

Judging Adjustment. In rating the behavioral attributes under adjustment, the judge should be aware that the terms listed in the left hand column - such as "cooperativeness" - represent terms which are neither positive nor negative in their implication. They are words which can represent skills either as assets or liabilities under different circumstances and must be judged separately as seen. The judge's task is to note those behaviors which are observed by placing a checkmark in the proper column following words which represent observed behavior. When behavior has been observed and so indicated, the judge is urged to make a decision as to whether the behavior was a liability or an asset in that situation. Under some circumstances the decision regarding value of the behavior judged cannot be made, and it is legitimate to withhold further judgment at that point. The judge should make every effort to rate the quality of behavior observed as either a liability or an asset. He should place a checkmark in the column which most appropriately indicates his decision.

The rating of "liability" or "asset" should be considered as follows. The behavior which is being seen at the moment should be viewed as a liability or an asset in that situation rather than as a predictor of whether or not it would be a liability or asset at some other time. For example, if a child repeatedly goes through a toy box and the storage bins of the classroom while the teacher is trying to work with him, such activity might well be judged "curiosity" and "liability" because in that situation at that time curiosity was interfering with the educational tasks at hand. Such a rating does not mean that curiosity is always a liability or that it cannot become a greater asset.

Some items on the rating form will not be observed and are therefore, not ratable. It is not necessary that the judge rate every item on the rating form. In

some instances there is a category - "observed" - for those occasions in which behavior was observed but could not be catalogued as "liability" or "asset."

The judgment of the interaction pattern is probably the most unfamiliar and complex part of the rating form to new judges. It is actually a relatively easy judgment to make and of considerable use according to those judges reacting in the research project. In each scene, the judge should identify a key segment of interaction which most characterizes the child in that scene. For example, it may be the child playing ball with another child, or it may be the subject being fed by a teacher. Whatever occupies the largest amount of interaction time and is most characteristic of the child in that scene should be rated on this segment although there may have been many other interactions occurring in the scene. The judge's task will be to place one checkmark under each of the columns - initiator, mediator and recipient - with that checkmark indicating who or what served in that capacity during the interaction. For example, if the child is seated at a table and the teacher approaches the table, picks up a spoonful of food and puts it in the child's mouth, the judge should rate that the initiator of the behavior was an adult, that the mediator of the behavior was an object (the spoonful of food) and that the recipient of the behavior was the subject. Following the rating, the judge should write on the bottom line opposite the word "agent," and under initiator the word "teacher," under mediator the word "food," under recipient the word "subject."

Judging Learning. The learning behavior rating form is most familiar to the general observer and the format for rating is similar to that for adjustment. The judge, during and after observing the scene, checks those words which he observed as applying to the child in that situation under para-intellectual skills. He then attempts to determine whether or not that observed skill was a liability or an asset to the child in that situation at that time. He is urged to make that decision although it is acceptable to merely indicate that the behavior was observed without rating its value in the situation.

Using the Summary Rating Form

At the end of the viewing and judgment of the eight behavioral observation situations, the judge is requested to make a series of summary ratings on communication, adjustment and learning. These summary ratings are similar to but different from those previously made.

Communication. The rating of communication level is accomplished with the same guidelines indicated above; however, it should be noted that the categories of behavior have been changed from a theoretical formal framework - such as "visual perception" used in the behavior rating forms - to such things as "oral speech" and "braille writing" which have a more direct bearing on educational planning and fit better within the framework of a summary judgment.

Adjustment. The adjustment summary rating form requires a decision on the judge's part indicating his composite reaction to the child in terms of the amount of supervision the child will need in a majority of daily living activities. The judge need only rate those observed. If no opportunity was given to observe the behavior, the judge makes no rating.

Learning. The judge is asked to rate under three major behavioral grants the child's amount of learning and ability to learn the kinds of activities that occur in that situation. The levels of learning have the same categorical values established in the five levels used under communication. Again, the judge may have seen either an amount of learning or an ability to learn and not both, and he is free to rate only what he saw. It is important to remember that no absolute standard of "satisfactory" is available for the judge anymore than an absolute standard of "normal" in real life situations is acceptable to most judges of human behavior. Thus, a relatively simple configuration can be shown for both the amount of learning and the ability to learn in three important situations, and the judge should take advantage of this opportunity even though his judgments cannot be based on absolutes.

BEHAVIOR RATING FORM

COMMUNICATION

ADJUSTMENT

LEARNING

77

BEHAVIOR LEVEL

Receptive System

	1	2	3	4	5
<u>Auditory Reception</u>					
<u>Visual Reception</u>					
<u>Tactile Reception</u>					
<u>Gustatory/Olfactory Reception</u>					

Referent System

	1	2	3	4	5
<u>Object Centered Communication</u>					
<u>People Centered Communication</u>					

Expressive System

	1	2	3	4	5
<u>Tactile/Motor Expressive</u>					
<u>Oral Expressive</u>					

INTERACTION PATTERN

	1	2	3	4	5
<u>The Subject</u>					
<u>A Child</u>					
<u>Child Group</u>					

INTELLECTUAL

	1	2	3	4	5
<u>An Adult</u>					
<u>Adult Group</u>					
<u>Mixed Group</u>					

OBJECTIVE

	1	2	3	4	5
<u>An Object or Task</u>					
<u>Object Group or Tasks</u>					
<u>Agent</u>					

BEHAVIOR LEVEL

	Observed	Liability	Asset
<u>Affective</u>			
<u>Curiosity</u>			
<u>Flexibility</u>			
<u>Perservance</u>			
<u>Attention Span</u>			
<u>Reaction to Reward</u>			
<u>Reaction to Punishment</u>			
<u>Self Concept</u>			
<u>Energy Level</u>			
<u>Sense of Humor</u>			
<u>Motivation and Interest</u>			
<u>Self Control</u>			

	Initiator	Mediator	Recipient
<u>Mobility</u>			
<u>Gross Coordination</u>			
<u>Eye-Hand Coordination</u>			
<u>Sensory Discrimination</u>			
<u>Spatial Orientation</u>			

	1	2	3	4	5
<u>Problem Solving Skill</u>					
<u>Ability to Generalize</u>					
<u>Abstracting Ability</u>					
<u>Sees Relationships</u>					
<u>Memory</u>					
<u>Symbolic Ability</u>					

Situation _____
Subject _____

Age _____ Agency _____

Date _____

Observer _____

SUMMARY RATING FORM

COMMUNICATION

BEHAVIOR

LEVEL

ADJUSTMENT					LEARNING				
					LEVEL				
Absent	Emergent	Primitive	Sensible	Adults/Factory	1	2	3	4	5
<u>Expressive Modality</u>					Eating				
<u>Manipulation</u>					Dressing				
<u>Manual Speech</u>					Toileting				
<u>Oral Speech</u>					Bathing/Washing				
<u>Braille Writing</u>					In class				
<u>Printing/Writing</u>					At play alone				
<u>Receptive Modality</u>					At play in groups				
<u>Manipulation</u>					Other				
<u>Manual Speech</u>									
<u>Oral Speech</u>									
<u>Braille Reading</u>									
<u>Print Reading</u>									
Content									
<u>Expressive Vocabulary</u>									
<u>Receptive Vocabulary</u>									

Absent	Emergent	Primitive	Sensible	Adults/Factory

1. Requires adult supervision 75% to 100% of the time.
2. Requires supervision and direction 50% to 75% of the time.
3. Minimal adult assistance and/or some help from other children 25% to 50% of the time.
4. Essentially self sufficient in this skill and needs help less than 25% of the time.

Subject _____ Age _____ Agency _____ Date _____ Observer _____

Appendix C

Age, Sex, Birthdate and Program for Subjects and Alternates

Age, Sex, Birthdate and Program for Subjects and Alternates

Sub	VTR #*	Sex	Birthdate	Program**
1	1	M	3/11/64	South Carolina Coastal Center
2	2	M	3/21/67	South Carolina Coastal Center
3	3	M	2/22/63	South Carolina Coastal Center
4	4	M	1/14/65	New York Inst. for the Blind
5	5	F	9/02/64	New York Inst. for the Blind
6	6	M	11/05/64	New York Inst. for the Blind
7	7	M	12/15/64	New York Inst. for the Blind
8	8	F	8/27/64	Pine Woods Center, Troy, New York
9	9	F	11/20/64	Alabama Institute for the Blind
10	10	M	1/09/63	Alabama Institute for the Blind
11	11	M	10/09/60	Alabama Institute for the Blind
12	12	F	9/30/64	Alabama Institute for the Blind
13	13	F	2/09/63	Alabama Institute for the Blind
14	14	F	1/27/62	Alabama Institute for the Blind
15	15	M	10/28/64	Alabama Institute for the Blind
16	16	F	1/22/65	Georgia Academy for the Blind
17	17	M	12/21/62	Overbrook School for the Blind
18	18	M	12/28/64	Overbrook School for the Blind
19	19	M	12/01/64	Overbrook School for the Blind
20	20	F	12/16/64	Overbrook School for the Blind
21	21	M	2/02/67	Perkins School for the Blind
22	22	M	12/05/67	Perkins School for the Blind
23	23	F	10/18/67	Perkins School for the Blind
24	24	M	11/29/68	Meeting Street School
25	25	M	1/03/68	Meeting Street School
26	26	F	12/05/66	San Antonio Education Services Center
27	27	F	9/25/66	California School for the Blind
	28*	F	1/13/70	California School for the Blind
28	29	M	2/08/66	Washington State School for Deaf-Blind
	30*	F	2/27/66	Washington State School for Deaf-Blind
29	31	F	3/13/66	Washington State School for Deaf-Blind

* Children video-taped but not included in data

** Center locations are shown in Figure 20

Sub	VTR #*	Sex	Birthdate	Program**
30	32	M	7/09/66	Washington State School for Deaf-Blind
31	33	M	7/07/66	Washington State School for Deaf-Blind
	34*	M	2/26/66	Washington State School for Deaf-Blind
32	35	M	4/06/67	Santa Clara County M. H. Program
	36*	F	2/07/65	Santa Clara County M. H. Program
33	37	M	12/20/68	Santa Clara County M. H. Program
	38*	M	1/09/68	Michigan School for the Blind
34	39	F	11/12/66	Michigan School for the Blind
	40*	M	10/30/68	Michigan School for the Blind
35	41	F	2/16/66	Michigan School for the Blind
	42*	M	9/14/67	Michigan School for the Blind
36	43	M	2/16/65	Peabody College for Teachers
37	44	M	11/16/64	Peabody College for Teachers
38	45	F	5/17/68	Peabody College for Teachers
	46*	M	11/24/64	National Childrens Center, Inc.
39	47	M	10/18/64	National Childrens Center, Inc.
40	48	M	2/08/67	West Virginia School for Deaf-Blind
41	49	F	11/22/66	West Virginia School for Deaf-Blind
42	50	F	2/14/65	West Virginia School for Deaf-Blind
	51*	F	6/16/68	West Virginia School for Deaf-Blind
43	52	M	12/29/65	Texas School for the Blind
44	53	M	1/08/65	Texas School for the Blind
	54*	F	5/15/71	New Mexico Program for Deaf-Blind
45	55	M	10/06/64	Georgia Academy for the Blind
46	56	F	2/12/69	New Mexico Program for Deaf-Blind
47	57	M	2/12/66	New Mexico Program for Deaf-Blind
48	58	M	8/06/71	New Mexico Program for Deaf-Blind
	59*	M	9/28/64	New Mexico Program for Deaf-Blind
49	60	F	2/03/64	Georgia Academy for the Blind

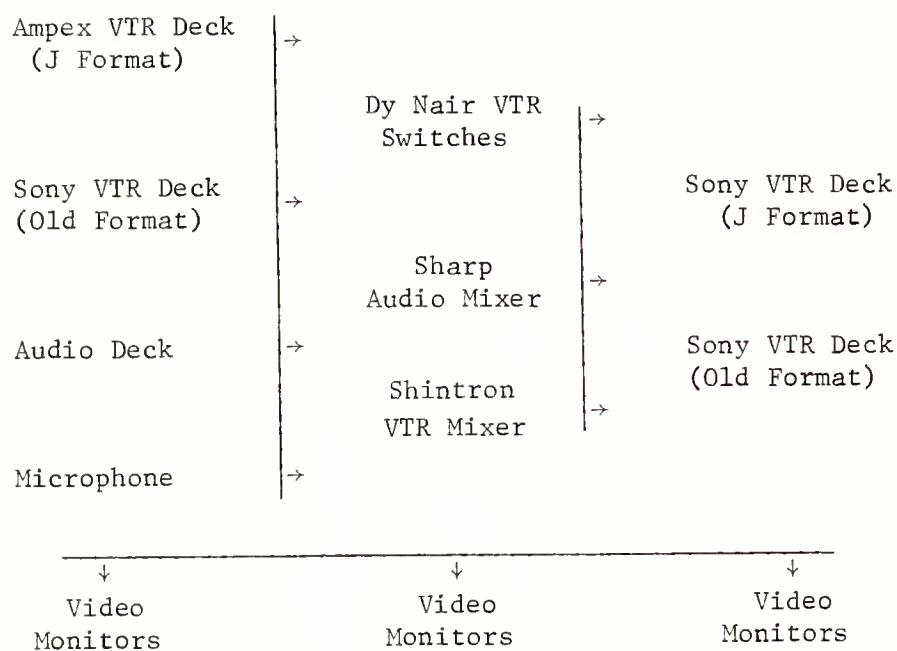
* Children video-taped but not included in data

** Center locations are shown in Figure 20

Appendix D
Video Tape Editing and Assembly Equipment Array

Appendix D

Video Tape Editing and Assembly Equipment Array



Appendix E
Scoring Procedure for Telediagnostic Protocol

Appendix E

Scoring Procedure for Telediagnostic Protocol

The TDP and BRF were not intended to provide a quantitative measure of a subject's degree of skill in a behavioral aspect. However, for the purposes of this study, each of the scale-points of sub-area modalities in the communication section, and behavioral descriptors in the adjustment and learning sections was assigned a numerical value. This scoring system was applied to the BRF after all judges had rated all subjects. The numerical value applied was treated as a performance score for the subject in each of the eight videotaped situations. The application of a scoring system to this otherwise descriptive rating approach is acknowledged as representing a necessary limitation of this study.

Numerical values were applied to the five-point rating scale of the communication sub-areas (receptive, referent, and expressive communication) in the following manner. A rating of "absent" was assigned a score of 1 (one). Each of the remaining four points on the scale (i.e., "primitive", "emergent", "usable", and "satisfactory" was assigned the scores 2, 3, 4, and 5 respectively). A modality which was left unrated was assigned a score of 0 (zero). A rating of 1 (i.e., "absent") was interpreted as meaning that an opportunity to observe a particular modality (e.g., "auditory reception") was perceived by the judge to be present (e.g., a loud, sudden noise in the room), but the expected subject-behavior (e.g., starting, or attempts at localizing the sound) did not occur. The rationale for assigning a value of 1 is that the non-occurrence of an expected subject-behavior is potentially usable information and therefore should be assigned a score which reflects its relative value. The rationale for assigning increasing numerical values to the remaining four points on the scale is based on the assumption that the rating scale descriptors (e.g. "primitive", "emergent", etc.) reflect increasing skill and therefore should be assigned values which reflect this increase. A rating of 0 (zero) applied to a modality left unrated was interpreted as meaning that the judge perceived that no opportunity was present in the videotaped situation for observing and/or rating. Thus, a judge viewing the Task Orientation situation may not observe evidence of "gustatory/olfactory reception" because the nature of the situation may preclude the occurrence of gustatory/olfactory sensory responses by the subject. A score of 0 (zero) in this instance would not mean that the subject is not capable of making such a response in other, more appropriate situational contexts (e.g. in the activity of daily living [eating] situation).

Numerical values were applied to the three-point rating scales of the adjustment and learning sections of the BRF in the following manner. A rating of "asset" for any behavioral descriptor (e.g. "curiosity") was assigned a numerical value of 3. The other two points on the scale (i.e. "observed" and "liability") were assigned the scores 2 and 1 (one), respectively. A behavioral descriptor (e.g. "flexibility") left unrated, was assigned a score of 0 (zero). The rationale for assigning increasing values to the three positions on the scale in the above described manner was based on the assumption that the scale descriptors "liability",

"observed", and "asset" represented increasing degrees of desirability. Thus, behavior which is perceived and interpreted by a judge as being an "asset" in a particular situation (e.g., "attentiveness" in Formal Learning) is assigned a value which reflects its optimal value for that situation. While ratings of "asset" and "liability" represented the extremes of desirability and were scored as such, a rating of 2 was assigned to ratings of "observed". The rationale for assigning an intermediate value to ratings of "observed" was based on the assumption that a rating of "observed" indicates that the behavior, though perceived as occurring by the judge, was not judged as being clearly either an asset nor a liability in that situation. A rating of 0 (zero) applied to a behavioral descriptor left unrated was interpreted only as meaning that the situational context offered no opportunity for the judge to observe and rate the behavior.

The scoring system applied to BRF scales is consistent with the concept of interval (i.e., arbitrary zero value) versus ratio (i.e., absolute zero value) scaling. Therefore, mean judge rating values which fall between the values 0 and 1 (e.g., .67) were interpreted as representing relative versus absolute values.

Scores were computed for each subject in the following manner. The numerical values indirectly assigned by a judge to each of the modality or behavioral descriptors in a BRF area (e.g., receptive communication) were summed across all eight situations. The resulting total represented the subject's score for that BRF area by that judge (e.g., RCS-J₁). This procedure was followed until all seven BRF scores were computed for that subject by that judge. The procedure was repeated for that subject for the ratings made by the other two judges. The result was three scores for each BRF area (e.g., RCS-J₁, RCS-J₂, and RCS-J₃) for that subject. The three scores for a BRF area were then summed, and the resulting total was divided by three (i.e., the number of judges). This mean judge rating represented the subject's score for the BRF area. This computational process was followed in obtaining scores for all BRF areas and for all subjects.

Appendix F

Mean Judged Score for Each Behavioral Domain on the Behavior Rating Form and Summary Rating Form for Each Subject for All Situations Combined for Each Year

Mean Judged Score for Each Behavioral Domain on the Behavior Rating Form for Each Subject for All Situations Combined for Each Year

Subject	Domain								
	Communication			Adjustment			Learning		
	Year			Year			Year		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
1	1.94	2.46	2.20	1.24	1.06	1.55	0.71	0.69	0.98
2	1.72	1.77	2.36	1.08	1.00	1.63	0.46	0.51	1.11
3	1.98	1.92	2.14	1.22	1.39	1.50	0.73	0.79	0.98
4	2.28	2.72	2.36	2.01	1.93	2.02	1.39	1.31	1.35
5	3.23	3.28	2.19	2.31	2.22	1.89	1.80	1.67	1.13
6	2.54	3.01	2.60	2.30	2.03	2.13	1.68	1.43	1.32
7	3.11	2.93	2.83	2.70	2.10	2.52	2.28	1.46	1.71
8	2.60	2.28	2.96	1.81	1.50	2.54	1.28	0.84	1.83
9	1.58	1.91	2.10	1.73	1.44	1.80	0.91	0.67	1.18
10	2.94	2.80	2.39	2.73	2.24	2.54	2.15	1.47	1.59
11	2.69	3.11	3.04	2.53	2.20	2.75	1.84	1.54	2.07
12	2.35	2.93	2.41	2.35	2.30	2.66	1.46	1.56	1.86
13	1.77	2.24	2.19	2.03	1.98	2.40	1.15	1.09	1.53
14	2.45	3.03	2.86	2.53	2.43	2.82	1.83	1.90	2.11
15	2.90	3.19	2.74	2.41	2.18	2.76	1.91	1.57	2.12
16	1.98	2.02	2.54	1.82	2.21	1.81	1.27	1.35	1.22
17	1.66	1.90	2.16	1.03	1.18	1.83	0.68	0.59	1.10
18	1.39	1.77	1.97	1.04	0.91	1.60	0.68	0.58	0.94
19	2.18	2.17	2.05	1.63	1.53	1.62	1.16	0.84	1.11
20	2.20	2.17	2.12	1.93	1.70	1.98	1.28	1.02	1.22
21	1.98	2.26	2.20	1.93	1.67	1.50	1.23	1.01	1.13
22	2.54	2.24	2.21	2.24	1.58	1.80	1.69	0.76	1.13
23	1.99	2.60	2.42	1.83	1.95	2.47	1.14	1.21	1.70
24	2.65	2.59	2.64	2.21	1.40	2.28	1.45	1.07	1.64
25	1.97	2.37	2.13	1.10	1.98	1.90	0.80	1.14	1.21

Subject				Domain					
	Communication			Adjustment			Learning		
	Year			Year			Year		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
26	2.93	3.11	2.96	1.98	2.26	2.01	1.18	1.56	1.34
27	2.78	2.71	3.91	2.23	2.84	2.56	1.63	1.98	2.02
28	2.03	2.36	2.37	1.53	2.60	1.93	1.02	1.60	1.09
29	1.85	2.09	2.24	1.49	2.53	1.43	1.06	1.11	0.95
30	1.46	2.07	1.76	0.93	1.38	1.31	0.53	0.87	0.55
31	1.71	2.15	1.99	1.23	1.38	1.46	0.76	0.94	0.69
32	2.00	2.18	2.18	1.87	2.43	2.02	1.12	1.46	1.17
33	2.03	2.17	2.17	1.28	2.08	1.84	0.89	1.32	1.04
34	1.87	1.94	1.69	1.29	1.58	1.04	0.83	0.96	0.70
35	2.54	2.42	2.27	2.72	2.56	1.68	1.73	1.60	1.06
36	2.35	2.01	2.75	1.69	2.07	1.88	1.11	1.33	1.17
37	3.30	2.34	2.31	2.22	2.44	1.92	1.59	1.64	1.20
38	2.69	2.87	3.06	1.94	2.81	2.19	1.45	2.00	1.48
39	2.43	2.60	2.61	2.02	2.48	1.95	1.11	1.64	1.14
40	2.54	1.92	1.93	1.64	1.45	1.51	1.12	0.93	0.78
41	2.02	2.06	1.65	1.71	1.68	1.22	1.24	1.11	0.70
42	2.78	2.44	2.86	2.42	2.69	2.33	1.79	1.79	1.57
43	2.30	2.09	2.31	1.67	1.69	1.64	1.07	1.25	1.05
44	2.33	2.22	2.25	2.44	1.76	1.36	1.49	1.09	0.94
45	2.33	2.31	2.11	1.53	2.17	1.52	1.22	1.57	0.95
46	2.03	2.09	2.31	1.60	1.64	1.81	0.96	0.95	0.96
47	2.40	2.27	2.90	1.65	1.83	2.00	1.18	1.25	1.24
48	1.88	1.82	2.71	1.87	1.37	1.64	0.89	0.86	1.01
49	2.05	1.80	2.71	1.64	1.71	1.97	1.09	0.99	1.42

Mean Judged Score for Each Behavioral Domain on the Summary Rating Form for Each Subject for All Situations Combined for Each Year

Subject	Domain								
	Communication			Adjustment			Learning		
	Year			Year			Year		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
1	0.81	1.36	1.67	0.71	0.90	1.90	1.83	2.61	3.17
2	0.75	1.31	1.67	0.86	0.81	0.95	1.83	2.50	3.00
3	1.06	1.22	1.61	1.48	0.95	1.14	3.11	2.61	2.67
4	1.47	2.25	1.81	1.86	1.57	2.10	3.39	3.44	3.33
5	2.94	3.42	2.31	2.29	2.29	2.24	4.06	4.44	3.89
6	1.61	2.44	1.92	2.00	1.71	1.05	3.33	3.67	3.17
7	2.94	2.81	2.47	3.33	1.86	1.81	4.33	4.00	3.56
8	2.00	1.94	2.17	1.33	1.57	1.86	3.33	3.33	3.89
9	1.33	1.50	1.72	1.67	1.10	1.24	2.89	2.83	2.89
10	2.89	3.22	2.50	3.14	2.10	2.14	4.28	4.33	3.83
11	2.47	3.69	3.11	2.86	2.52	2.71	3.94	4.50	4.28
12	2.31	3.25	2.67	2.52	2.33	2.14	3.50	4.50	4.17
13	1.58	2.75	2.17	2.05	2.05	1.71	2.94	4.22	3.56
14	2.78	3.50	2.50	3.24	2.57	2.19	3.78	4.78	4.00
15	2.58	3.50	3.33	2.95	2.67	2.67	4.06	4.56	4.17
16	1.33	1.39	1.61	1.86	1.71	1.52	2.44	3.28	3.50
17	1.19	1.28	1.53	1.05	0.62	1.57	2.00	2.61	2.94
18	1.14	1.36	1.53	0.90	0.90	1.00	2.22	2.28	2.67
19	1.86	1.69	1.81	1.76	0.90	1.48	3.00	3.33	3.06
20	1.61	1.64	1.64	1.24	0.95	1.57	2.89	3.17	3.17
21	1.39	1.89	1.72	1.38	1.14	1.05	2.72	3.39	2.89
22	1.69	1.83	1.83	2.24	0.95	1.29	3.72	3.56	3.22
23	1.28	2.17	2.11	1.05	1.43	1.81	2.50	3.61	3.83
24	1.64	1.72	1.97	1.62	1.14	1.76	3.50	3.50	3.83
25	1.39	1.50	1.72	1.14	1.14	2.00	2.67	3.39	3.11

Subject	Domain								
	Communication			Adjustment			Learning		
	Year			Year			Year		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
26	1.86	2.00	2.22	1.33	1.57	0.95	3.78	3.94	3.78
27	2.44	2.64	3.69	2.43	1.62	1.57	3.72	4.06	4.67
28	2.08	2.17	1.83	1.48	1.76	1.48	3.61	3.56	3.72
29	1.22	1.53	1.56	1.05	1.19	1.00	2.33	2.78	3.17
30	1.17	1.39	1.06	0.95	0.76	0.81	2.00	2.56	2.11
31	1.33	1.50	1.06	1.00	0.90	0.90	2.28	2.56	2.89
32	1.58	1.89	1.53	2.14	1.76	1.71	3.56	3.67	3.56
33	1.42	1.78	1.47	1.05	0.95	1.43	2.50	2.94	3.56
34	1.58	1.58	1.31	1.67	1.24	0.95	2.89	2.89	2.67
35	1.94	1.75	1.75	2.14	1.57	1.86	3.56	3.28	3.67
36	1.92	1.58	1.50	1.43	1.14	1.24	3.56	3.11	3.67
37	2.47	2.08	2.14	2.76	1.81	1.52	4.33	3.61	3.83
38	1.92	2.33	2.53	1.67	1.71	2.05	3.11	3.61	4.28
39	1.69	1.97	1.78	2.05	1.57	1.29	3.28	3.56	3.78
40	1.81	1.50	1.56	1.52	1.00	0.62	3.33	2.72	3.00
41	1.97	1.58	1.44	1.19	1.00	0.67	3.67	2.56	2.56
42	2.00	1.92	2.17	2.24	1.81	1.67	3.67	3.94	4.11
43	1.83	1.61	1.64	1.05	1.14	1.33	3.33	3.06	3.44
44	1.81	1.89	1.31	1.52	1.14	1.19	3.33	3.00	2.78
45	1.42	1.72	1.47	1.57	2.24	1.29	3.00	3.44	3.56
46	1.39	1.42	1.31	1.43	1.10	1.10	2.61	2.89	3.33
47	2.36	2.11	2.22	1.48	1.62	1.67	3.56	3.50	4.11
48	0.81	1.44	1.64	0.86	0.90	1.14	2.50	3.00	3.56
49	1.78	1.36	1.39	2.33	1.86	0.71	3.28	3.22	3.11

Appendix G

Mean Judged Score for Each Behavioral System on the Behavior Rating Form and Summary Rating Form for Each Subject for All Situations Combined for Each Year

Mean Judged Score for Each Behavioral System on the Behavior Rating
Form for Each Subject for All Situations Combined for Year One

Subject	System						
	Recep.	Ref.	Expr.	Adj.	Aff.	Motor	Intell.
1	2.05	2.00	1.65	1.24	0.77	1.33	0.27
2	1.81	1.63	1.63	1.08	0.63	0.76	0.10
3	2.09	2.02	1.73	1.22	0.80	1.40	0.29
4	2.39	2.60	1.75	2.01	1.47	2.15	0.82
5	3.60	3.40	2.31	2.31	1.82	2.46	1.35
6	2.61	2.85	2.06	2.30	1.71	2.70	1.04
7	3.04	4.00	2.35	2.70	2.34	2.68	1.94
8	2.79	2.75	2.06	1.81	1.34	1.99	0.77
9	1.47	1.83	1.56	1.73	0.89	1.71	0.48
10	3.04	3.17	2.50	2.73	2.35	2.93	1.40
11	2.90	2.98	1.98	2.53	2.04	2.70	1.03
12	2.56	2.73	1.54	2.35	1.62	2.50	0.59
13	1.88	2.04	1.27	2.03	1.44	1.87	0.33
14	2.50	2.92	1.90	2.53	1.91	2.53	1.29
15	2.89	3.31	2.52	2.41	2.13	2.63	1.14
16	2.01	2.44	1.48	1.82	1.42	2.35	0.40
17	1.81	1.69	1.31	1.03	0.82	1.26	0.17
18	1.40	1.50	1.25	1.04	0.83	1.30	0.14
19	2.21	2.27	2.02	1.63	1.16	1.90	0.70
20	2.35	2.21	1.88	1.93	1.40	2.32	0.50
21	1.96	2.23	1.79	1.93	1.30	2.38	0.45
22	2.76	2.98	1.67	2.24	1.89	2.73	0.75
23	1.91	2.31	1.85	1.83	1.26	2.15	0.37
24	2.66	3.19	2.10	2.21	1.53	2.16	0.92
25	1.93	2.02	2.02	1.10	0.86	1.16	0.51
26	2.92	3.48	2.40	1.98	1.22	2.08	0.58
27	2.77	2.69	2.88	2.23	1.61	2.43	1.14

Subject	System						Intell.
	Recep.	Ref.	Expr.	Adj.	Aff.	Motor	
28	2.08	2.10	1.85	1.53	0.98	1.86	0.54
29	1.90	1.96	1.67	1.49	1.03	2.07	0.48
30	1.60	1.35	1.29	0.93	0.72	0.91	0.06
31	1.67	1.85	1.65	1.23	0.80	1.44	0.33
32	1.93	2.23	1.92	1.87	1.24	1.79	0.56
33	1.95	2.31	1.92	1.28	0.93	1.33	0.55
34	1.77	1.96	1.98	1.29	0.79	1.43	0.52
35	2.64	2.96	1.92	2.72	1.87	2.63	0.98
36	2.27	2.90	2.04	1.69	1.25	1.69	0.59
37	3.29	3.92	2.69	2.23	1.55	2.26	1.22
38	2.68	3.21	2.21	1.94	1.41	2.23	1.02
39	2.57	2.71	1.88	2.02	1.30	2.02	0.33
40	2.40	2.81	2.56	1.64	1.10	1.67	0.80
41	1.84	2.29	2.10	1.71	1.32	1.87	0.73
42	2.77	3.33	2.25	2.42	2.05	2.45	1.02
43	2.38	2.52	1.94	1.67	1.05	2.03	0.52
44	2.29	2.63	2.10	2.44	1.72	2.23	0.73
45	2.32	2.71	1.96	1.53	1.29	2.21	0.51
46	2.09	2.21	1.73	1.60	1.03	1.58	0.47
47	2.42	2.46	2.29	1.65	1.02	1.88	0.97
48	1.99	1.83	1.69	1.87	1.18	1.09	0.39
49	2.08	2.08	1.94	1.64	1.02	2.02	0.63

Mean Judged Score for Each Behavioral System on the Behavior Rating Form for Each Subject for All Situations Combined for Year Two

Subject	System						
	Recep.	Ref.	Expr.	Adj.	Aff.	Motor	Intell.
1	2.42	2.79	2.23	1.06	0.61	1.37	0.37
2	1.85	1.83	1.54	1.00	0.48	1.10	0.20
3	1.93	2.10	1.73	1.39	0.70	1.63	0.39
4	2.92	2.88	2.17	1.93	1.25	2.48	0.67
5	3.55	2.83	3.17	2.22	1.55	2.52	1.30
6	3.13	3.13	2.65	2.03	1.37	2.42	0.90
7	3.06	3.00	2.60	2.10	1.46	2.46	0.82
8	2.44	2.35	1.90	1.50	0.95	1.28	0.41
9	1.64	2.27	2.10	1.44	0.76	1.13	0.28
10	2.58	3.21	2.81	2.24	1.61	2.10	0.89
11	3.05	3.29	3.04	2.20	1.49	2.38	1.09
12	2.95	3.33	2.48	2.30	1.53	2.39	1.09
13	2.07	2.71	2.13	1.98	1.07	1.62	0.80
14	2.92	3.56	2.73	2.43	1.86	2.65	1.48
15	3.26	3.17	3.06	2.18	1.50	2.41	1.13
16	2.08	2.29	1.63	2.21	1.53	2.24	0.60
17	1.91	2.04	1.73	1.18	0.55	1.17	0.31
18	1.70	1.92	1.77	0.91	0.56	0.99	0.35
19	2.17	2.56	1.77	1.53	0.82	1.56	0.42
20	2.22	2.38	1.88	1.70	1.03	1.88	0.45
21	2.21	2.46	2.15	1.67	1.13	1.63	0.45
22	2.40	2.52	1.67	1.58	0.70	1.57	0.35
23	2.48	3.04	2.40	1.95	1.22	2.19	0.58
24	2.65	2.60	2.46	1.40	0.86	2.33	0.58
25	2.41	2.52	2.15	1.98	1.19	1.91	0.58
26	3.16	3.60	2.54	2.26	1.56	2.60	0.90
27	2.89	2.83	2.23	2.84	2.33	2.65	1.08

Subject	Recep.	Ref.	Expr.	System			
				Adj.	Aff.	Motor	Intell.
28	2.43	2.44	2.15	2.60	1.89	2.36	0.75
29	2.19	2.40	1.60	2.53	1.20	1.82	0.59
30	2.20	2.15	1.73	1.38	1.02	1.36	0.39
31	2.34	2.19	1.73	1.38	1.07	1.63	0.36
32	2.20	2.46	1.88	2.43	1.65	2.03	0.87
33	1.96	2.58	2.17	2.08	1.55	1.76	0.75
34	1.97	1.90	1.94	1.58	1.08	1.83	0.30
35	2.66	2.38	2.00	2.56	1.81	2.67	0.65
36	2.07	2.21	1.67	2.07	1.42	2.31	0.61
37	2.45	2.54	1.92	2.44	1.75	2.54	0.97
38	3.07	3.13	2.21	2.81	2.34	2.63	1.15
39	2.57	3.02	2.25	2.48	1.86	2.25	0.99
40	1.96	1.94	1.81	1.45	1.03	1.53	0.43
41	1.83	2.35	2.21	1.68	1.32	1.75	0.46
42	2.41	2.88	2.06	2.69	2.02	2.51	1.06
43	2.17	2.35	1.69	1.69	1.22	2.22	0.72
44	2.16	2.46	2.12	1.76	1.13	2.19	0.36
45	2.39	2.71	1.77	2.18	1.73	2.50	0.81
46	2.11	2.33	1.81	1.64	1.02	1.95	0.29
47	2.42	2.17	2.06	1.83	1.26	2.33	0.60
48	1.84	1.90	1.69	1.37	0.99	1.41	0.34
49	1.88	1.98	1.48	1.71	0.97	2.00	0.43

Mean Judged Score for Each Behavioral System on the Behavior Rating Form for Each Subject for All Situations Combined for Year Three

Subject	System						
	Recep.	Ref.	Expr.	Adj.	Aff.	Motor	Intell.
1	2.21	2.17	2.19	1.55	1.14	1.67	0.40
2	2.49	2.40	2.08	1.63	1.44	1.64	0.39
3	2.29	2.06	1.92	1.50	1.14	1.78	0.32
4	2.51	2.46	1.96	2.02	1.40	2.21	0.81
5	2.28	2.31	1.88	1.89	1.22	1.75	0.67
6	2.64	2.79	2.35	2.13	1.35	2.43	0.63
7	2.78	3.17	2.60	2.52	1.95	2.60	0.84
8	2.96	3.17	2.77	2.54	2.10	2.53	1.06
9	2.09	2.17	2.06	1.80	1.35	2.13	0.39
10	2.47	2.63	1.98	2.54	1.93	2.04	0.89
11	3.06	3.27	2.77	2.75	2.17	2.56	1.63
12	2.53	2.88	1.69	2.66	2.20	2.26	1.14
13	2.28	2.40	1.81	2.40	1.79	2.19	0.78
14	2.94	3.08	2.50	2.82	2.39	2.69	1.38
15	2.80	2.88	2.48	2.76	2.42	2.65	1.38
16	2.36	3.23	2.21	1.81	1.07	2.31	0.76
17	2.34	2.10	1.85	1.83	1.17	2.12	0.43
18	1.98	2.02	1.92	1.60	1.14	1.50	0.39
19	2.19	2.23	1.60	1.62	1.16	2.02	0.54
20	2.25	2.27	1.71	1.98	1.31	2.39	0.39
21	2.18	2.38	2.08	1.50	1.13	2.00	0.66
22	2.30	2.33	1.92	1.80	1.17	2.18	0.49
23	2.49	2.75	1.94	2.47	1.74	2.63	1.12
24	2.72	2.96	2.17	2.28	1.78	2.64	0.84
25	2.04	2.42	2.02	1.90	1.23	2.32	0.53
26	3.13	3.25	2.35	2.01	1.36	2.39	0.67
27	3.57	4.52	3.96	2.56	1.93	2.63	1.76

Subject	System						Intell.
	Recep.	Ref.	Expr.	Adj.	Aff.	Motor	
28	2.42	2.73	1.98	1.93	1.11	1.90	0.57
29	2.30	2.33	2.04	1.43	0.91	1.85	0.47
30	1.92	1.60	1.58	1.31	0.71	0.83	0.17
31	2.17	2.00	1.63	1.46	0.80	1.23	0.19
32	2.11	2.58	1.90	2.02	1.26	1.97	0.56
33	2.09	2.52	1.96	1.84	1.08	1.87	0.45
34	1.53	1.79	1.92	1.04	0.64	1.38	0.36
35	2.34	2.38	2.02	1.68	1.03	2.20	0.39
36	2.80	3.13	2.27	1.88	1.13	2.26	0.55
37	2.29	2.69	1.96	1.92	1.21	1.93	0.74
38	3.00	3.52	2.73	2.19	1.44	2.48	0.93
39	2.73	3.02	1.96	1.95	1.17	1.87	0.65
40	1.93	1.83	2.02	1.51	0.74	1.58	0.34
41	1.45	1.71	2.00	1.22	0.71	1.38	0.28
42	2.98	3.06	2.44	2.33	1.59	2.33	1.07
43	2.42	2.42	1.98	1.64	0.97	2.06	0.53
44	2.30	2.44	1.94	1.36	0.90	1.88	0.42
45	2.10	2.38	1.85	1.52	0.89	2.07	0.34
46	2.28	2.73	1.94	1.81	1.04	1.76	0.35
47	3.03	3.08	2.46	2.00	1.13	2.31	0.72
48	3.09	2.60	2.06	1.64	1.13	1.82	0.33
49	2.75	3.06	2.27	1.97	1.47	2.44	0.73

Mean Judged Score for Each Behavioral System on the Summary Rating
Form for Each Subject for All Situations Combined for Year One

Subject	System						
	Expr. M.	Recep. M.	Content	Adj.	AODL	FSS	USS
1	0.47	0.53	0.67	0.48	1.33	1.00	1.17
2	0.67	0.67	1.17	0.81	2.17	1.33	1.50
3	0.93	0.87	1.50	1.33	3.67	2.50	2.67
4	1.33	1.33	1.67	1.67	4.50	2.83	3.17
5	2.33	2.73	3.33	2.19	3.83	4.00	3.83
6	1.60	2.00	2.00	2.05	3.67	3.67	3.17
7	1.93	2.13	3.33	2.67	4.17	3.67	3.33
8	2.60	2.87	3.00	2.38	4.17	4.17	4.00
9	1.13	1.20	1.83	1.43	3.50	2.83	2.33
10	2.20	2.13	2.50	2.52	4.00	3.17	3.83
11	2.53	2.53	3.50	3.05	4.33	4.00	3.67
12	2.47	2.27	3.00	2.57	4.00	4.00	3.50
13	1.67	1.80	2.33	2.33	3.67	3.00	2.66
14	2.20	2.07	2.50	2.71	4.00	4.00	1.67
15	2.47	2.53	3.17	2.95	4.33	4.00	3.67
16	1.73	2.00	2.50	2.24	3.67	3.17	2.83
17	1.20	1.33	1.33	1.33	2.17	1.83	1.83
18	1.20	1.13	1.33	1.14	2.33	2.67	2.00
19	1.53	1.67	2.00	1.57	2.83	3.17	2.50
20	1.33	1.53	1.83	1.29	2.83	2.83	2.50
21	1.47	1.33	2.33	1.14	3.00	2.33	2.33
22	1.40	1.40	1.67	1.71	3.67	3.17	2.83
23	1.33	1.33	2.33	1.90	3.00	3.00	3.17
24	1.33	1.40	2.00	1.29	3.33	3.17	3.17
25	1.47	1.67	2.33	1.43	3.67	3.17	3.33
26	1.27	1.47	2.17	1.43	3.17	3.00	3.00
27	1.80	1.93	2.33	1.52	3.67	3.50	3.67

Subject	System						USS
	Expr. M.	Recep. M.	Content	Adj.	AODL	FSS	
28	2.26	2.33	2.33	2.14	4.17	4.17	3.33
29	1.73	1.80	1.83	1.14	2.83	2.67	2.33
30	1.27	1.33	1.33	1.05	2.67	2.33	2.17
31	1.00	1.00	1.50	1.05	2.17	1.67	1.50
32	1.27	1.40	2.00	1.48	3.83	2.83	3.17
33	1.67	1.67	2.00	1.62	4.00	2.83	2.50
34	1.13	1.20	1.33	1.29	2.50	2.17	2.00
35	1.40	1.73	2.00	2.29	3.83	3.17	3.17
36	2.40	2.60	2.00	1.48	3.83	3.67	3.50
37	2.47	2.27	2.33	2.62	4.33	4.17	4.17
38	1.40	1.80	2.00	1.48	3.17	3.17	3.33
39	1.80	1.87	2.00	2.19	3.83	3.50	3.67
40	1.73	1.93	2.50	1.71	3.00	3.00	3.17
41	1.33	1.53	2.33	1.33	3.67	3.33	3.50
42	2.07	2.33	1.83	2.00	3.67	3.67	3.50
43	1.73	1.80	2.50	1.43	4.00	3.33	3.50
44	1.93	2.13	1.50	1.38	3.33	3.33	3.50
45	1.60	1.60	1.83	1.29	3.50	3.00	3.00
46	1.40	1.47	1.67	1.76	3.33	2.17	3.33
47	1.67	1.80	2.50	1.62	3.50	2.67	3.00
48	1.53	1.67	1.67	0.71	3.17	2.83	2.83
49	0.80	0.93	1.50	1.67	3.50	2.50	2.33

**Mean Judged Score for Each Behavioral System on the Summary Rating
Form for Each Subject for All Situations Combined for Year Two**

Subject	System						
	Expr. M.	Recep. M.	Content	Adj.	AODL	FSS	USS
1	1.40	1.27	1.50	0.90	3.00	2.33	2.50
2	1.27	1.27	1.50	0.81	2.83	2.00	2.67
3	1.20	1.20	1.33	0.95	3.33	2.17	2.33
4	2.07	2.33	2.50	1.57	3.83	3.17	3.33
5	3.00	3.40	4.50	2.29	4.67	4.33	4.33
6	2.53	2.33	2.50	1.71	4.00	3.33	3.67
7	2.73	2.93	2.67	1.86	4.00	4.00	4.00
8	1.87	2.07	1.83	1.57	3.67	3.17	3.17
9	1.53	1.40	1.67	1.10	2.83	3.00	2.67
10	3.27	2.87	4.00	2.10	4.50	4.33	4.17
11	3.33	3.67	4.67	2.52	4.50	4.50	4.50
12	3.00	3.13	4.17	2.33	4.50	4.50	4.50
13	2.33	3.00	3.17	2.05	4.33	4.33	4.00
14	3.20	3.33	4.67	2.57	4.83	4.67	4.83
15	3.13	3.40	4.67	2.67	4.67	4.50	4.50
16	1.27	1.40	1.67	1.71	3.50	3.17	3.17
17	1.07	1.33	1.67	0.62	2.83	2.50	2.50
18	1.33	1.33	1.50	0.90	2.33	2.33	2.17
19	1.53	1.80	1.83	0.90	3.67	3.17	3.17
20	1.40	1.80	1.83	0.95	3.33	3.00	3.17
21	1.93	1.87	1.83	1.14	3.50	3.50	3.17
22	1.80	1.87	1.83	0.95	3.67	3.50	3.50
23	2.07	2.20	2.33	1.43	3.50	3.67	3.67
24	1.67	1.73	1.83	1.14	3.33	3.33	3.83
25	1.47	1.53	1.50	1.14	3.50	3.17	3.50
26	1.53	2.13	2.83	1.57	3.67	4.17	4.00
27	2.20	2.87	3.17	1.62	4.17	4.00	4.00

Subject	Expr. M.	Recep. M.	Content	System			USS
				Adj.	AODL	FSS	
28	2.00	2.20	2.50	1.76	3.83	3.33	3.50
29	1.33	1.60	1.83	1.19	2.67	3.00	2.67
30	1.27	1.33	1.83	0.76	2.50	2.67	2.50
31	1.27	1.53	2.00	0.90	2.67	2.33	2.67
32	1.73	1.80	2.50	1.76	3.67	3.67	3.67
33	1.73	1.60	2.33	0.95	3.00	3.00	2.83
34	1.47	1.53	2.00	1.24	3.33	2.67	2.67
35	1.60	1.87	1.83	1.57	3.50	3.33	3.00
36	1.33	1.60	2.17	1.14	3.33	3.33	2.67
37	2.00	2.00	2.50	1.81	3.67	3.67	3.50
38	2.13	2.33	2.83	1.71	3.67	3.67	3.50
39	1.73	2.00	2.50	1.57	3.67	3.83	3.17
40	1.33	1.53	1.83	1.00	2.83	2.67	2.67
41	1.40	1.60	2.00	1.00	2.83	2.33	2.50
42	1.60	1.93	2.67	1.81	4.00	4.00	3.83
43	1.47	1.60	2.00	1.14	3.17	2.83	3.17
44	1.53	2.07	2.33	1.14	3.33	3.00	2.67
45	1.53	1.73	2.17	2.24	3.67	3.17	3.50
46	1.27	1.33	2.00	1.10	3.17	2.83	2.67
47	1.93	1.93	3.00	1.62	3.83	3.33	3.33
48	1.40	1.40	1.67	0.90	3.17	2.83	3.00
49	1.27	1.33	1.67	1.86	3.83	2.83	3.00

Mean Judged Score for Each Behavioral System on the Summary Rating Form for Each Subject for All Situations Combined for Year Three

Subject	System						
	Expr. M.	Recep. M	Content	Adj.	AODL	FSS	USS
1	1.47	1.67	2.17	1.90	3.50	3.00	3.00
2	1.53	1.73	1.83	0.95	3.33	2.83	2.83
3	1.53	1.60	1.83	1.14	3.00	2.50	2.50
4	1.60	1.93	2.00	2.10	3.67	3.33	3.00
5	2.00	2.00	3.83	2.24	4.00	4.00	3.67
6	1.67	1.93	2.50	1.05	3.33	2.83	3.33
7	2.47	2.40	2.67	1.81	3.83	3.33	3.50
8	1.93	2.13	2.83	1.86	4.17	3.67	3.83
9	1.67	1.67	2.00	1.24	3.17	2.67	2.83
10	2.27	2.47	3.17	2.14	4.17	3.67	3.67
11	2.73	3.20	3.83	2.71	4.50	4.33	4.00
12	2.40	2.53	3.67	2.14	4.33	4.17	4.00
13	1.80	2.27	2.83	1.71	3.83	3.50	3.33
14	2.40	2.33	3.17	2.19	4.17	4.00	3.83
15	3.13	3.27	4.00	2.67	4.17	4.17	4.17
16	1.53	1.33	2.50	1.52	4.00	3.00	3.50
17	1.40	1.53	1.83	1.57	3.00	3.00	2.83
18	1.33	1.47	2.17	1.00	3.00	2.50	2.50
19	1.60	1.87	2.17	1.48	3.17	2.83	3.17
20	1.53	1.67	1.83	1.57	3.33	3.00	3.17
21	1.60	1.60	2.33	1.05	3.17	2.67	2.83
22	1.73	1.67	2.50	1.29	3.50	3.17	3.00
23	1.93	2.07	2.67	1.81	3.83	3.83	3.83
24	1.73	1.93	2.67	1.76	3.83	3.83	3.83
25	1.53	1.67	2.33	2.00	3.33	3.17	2.83
26	1.80	2.27	3.17	0.95	3.67	4.00	3.67
27	3.47	3.67	4.33	1.57	5.00	4.33	4.67

Subject	System						FSS	USS
	Expr. M.	Recep. M.	Content	Adj.	AODL			
28	1.47	1.87	2.67	1.48	4.33	3.33	3.50	
29	1.40	1.47	2.17	1.00	3.50	3.00	3.00	
30	0.93	0.93	1.67	0.81	2.50	1.67	2.17	
31	0.93	0.93	1.67	0.90	3.33	2.50	2.83	
32	1.00	1.67	2.50	1.71	3.67	3.33	3.67	
33	1.13	1.40	2.50	1.43	3.67	3.33	3.67	
34	1.33	1.13	1.67	0.95	3.00	2.50	2.50	
35	1.33	1.87	2.50	1.86	4.00	3.50	3.50	
36	1.40	1.33	2.17	1.24	4.17	3.50	3.33	
37	2.07	1.93	2.83	1.52	4.00	4.00	3.50	
38	2.07	2.80	3.00	2.05	4.50	4.33	4.00	
39	1.40	1.73	2.83	1.29	3.83	3.67	3.83	
40	1.47	1.47	2.00	0.62	3.33	2.67	3.00	
41	1.20	1.40	2.17	0.67	3.17	2.17	2.33	
42	1.73	2.33	2.83	1.67	4.33	4.00	4.00	
43	1.53	1.67	1.83	1.33	4.00	3.50	2.83	
44	1.20	1.27	1.67	1.19	3.33	2.50	2.50	
45	1.33	1.33	2.17	1.29	4.17	3.00	3.50	
46	1.27	1.13	1.83	1.10	3.50	3.33	3.17	
47	1.80	2.07	3.67	1.67	4.33	4.00	4.00	
48	1.33	1.60	2.50	1.14	3.67	3.67	3.33	
49	1.13	1.33	2.17	0.71	3.33	3.00	3.00	

Appendix H

Mean Judged Score for Each Test Item on the Behavior Rating Form and Summary Rating Form for All Subjects for All Situations for Each Year

Mean Judged Score for Each Test Item on the Behavior Rating
Form for All Subjects for All Situations for Each Year

Test Item	Score		
	Year		
	(1)	(2)	(3)
Auditory Reception	1.48	1.61	1.63
Visual Reception	3.02	3.19	3.27
Tactile Reception	3.23	3.35	3.41
Gustatory/Olfactory Reception	1.51	1.42	1.48
Object Centered Communication	2.60	2.64	2.67
People Centered Communication	2.45	2.49	2.55
Tactile/Motor Expressive	2.36	2.55	2.51
Oral Expressive	1.52	1.63	1.73
Cooperativeness	2.15	2.03	1.96
Purposefulness	1.85	2.01	2.01
Manageability	2.36	2.38	2.25
Independence	1.63	1.79	1.79
Attentiveness	1.91	1.98	2.02
Responsiveness	1.95	2.01	2.01
Flexibility	1.54	1.61	1.72
Persistence	1.58	1.57	1.81
Physical Activity	2.11	2.19	2.26
Curiosity	1.34	1.34	1.45
Curiosity	1.35	1.37	1.44
Flexibility	1.58	1.64	1.72
Perserverance	1.60	1.60	1.77
Attention Span	1.91	1.95	2.01
Reaction to Reward	0.64	0.51	0.50
Reaction to Punishment	0.29	0.20	0.12
Self Concept	1.32	1.25	1.20
Energy Level	2.02	2.04	2.10
Sense of Humor	0.58	0.50	0.51
Motivation and Interest	1.93	2.00	2.03
Self Control	1.87	1.80	1.92

Significant 0.000 level

Test Item	Score		
	Year		
	(1)	(2)	(3)
Mobility	1.43	1.31	1.33
Gross Coordination	2.62	2.72	2.77
Eye-Hand Coordination	1.91	1.89	2.02
Sensory Discrimination	1.92	2.00	2.15
Spatial Orientation	2.28	2.30	2.47
Vocabulary	0.28	0.35	0.38
Creativity	0.38	0.20	0.17
Problem Solving Skill	0.98	0.99	0.99
Ability to Generalize	0.99	0.95	0.95
Abstracting Ability	0.42	0.35	0.30
Sees Relationships	1.39	1.42	1.42
Memory	0.72	0.76	0.81
Symbolic Ability	0.38	0.34	0.44

Significant 0.000 level

Mean Judged Score for Each Test Item on the Summary Rating
Form for All Subjects for All Situations for Each Year

Test Item	Score		
	Year		
	(1)	(2)	(3)
Manipulation	2.72	2.74	2.86
Manual Speech	1.61	1.96	1.86
Oral Speech	1.71	1.89	1.84
Braille Writing	0.88	1.03	0.71
Printing/Writing	1.24	1.51	1.14
Manipulation	3.01	3.05	3.20
Manual Speech	1.82	2.31	2.14
Oral Speech	1.76	1.97	1.99
Braille Reading	0.88	1.04	0.72
Print Reading	1.19	1.55	1.19
Expressive Vocabulary	1.93	2.20	2.31
Receptive Vocabulary	2.28	2.59	2.74
Eating	2.66	2.33	2.60
Dressing	1.48	1.10	1.47
Toileting	1.22	0.69	0.57
Bathing/Washing	1.33	0.80	0.87
In Class	1.36	1.53	1.49
At Play Alone	2.18	2.25	2.22
At Play in Groups	1.91	1.48	1.21
Amount of Learning ADL	2.98	3.17	3.36
Ability to Learn ADL	3.95	3.93	4.04
Amount of Learning Formal Structured	2.61	2.93	2.93
Ability to Learn Formal Structured	3.54	3.69	3.68
Amount of Learning Unstructured Social	2.46	2.88	2.90
Ability to Learn Unstructured Social	3.47	3.75	3.74

Significant 0.000 level

Appendix I

Percent of Judged Scores for Each Test Item on the Behavior Rating
Form and Summary Rating Form for All Subjects for All
Situations for Each Year

Percent of Judged Scores for Each Test Item on the
Behavior Rating Form for All Subjects for
 All Situations for Each Year

Test Item	Judgment	Percent		
		Year		
		(1)	(2)	(3)
Auditory Reception	Absent	50.8	44.7	40.3
	Primitive	17.9	15.4	13.7
	Emergent	11.0	14.5	16.6
	Usable	5.5	7.5	9.9
	Satisfactory	1.4	2.4	1.2
	Missing Value	13.4	15.5	18.4
Visual Reception	Absent	9.5	8.7	9.2
	Primitive	23.0	15.4	13.0
	Emergent	23.5	26.1	22.8
	Usable	34.4	39.5	41.1
	Satisfactory	7.7	8.6	11.8
	Missing Value	2.0	1.7	2.1
Tactile Reception	Absent	2.6	3.6	5.2
	Primitive	18.5	13.5	12.2
	Emergent	31.0	31.2	24.3
	Usable	36.3	38.4	47.3
	Satisfactory	9.0	11.6	9.9
	Missing Value	2.6	1.8	1.1
Gustatory/ Olfactory Reception	Absent	29.9	30.4	30.1
	Primitive	12.4	6.6	4.4
	Emergent	8.8	9.0	9.7
	Usable	11.1	11.1	11.9
	Satisfactory	5.2	5.4	6.5
	Missing Value	32.6	37.4	37.4
Object Centered Communication	Absent	19.9	16.8	17.9
	Primitive	20.2	16.1	14.2
	Emergent	25.7	31.5	32.5
	Usable	23.2	24.4	25.5
	Satisfactory	5.9	4.5	4.3
	Missing Value	5.1	6.7	5.7

Test Item	Judgment	Percent		
		Year		
		(1)	(2)	(3)
People Centered Communication	Absent	21.0	14.4	12.9
	Primitive	27.6	26.0	24.9
	Emergent	22.1	28.7	29.3
	Usable	19.5	20.6	21.8
	Satisfactory	4.8	2.9	3.5
	Missing Value	4.9	7.4	7.7
Tactile/ Motor Expressive	Absent	18.5	14.5	13.5
	Primitive	31.6	25.5	28.5
	Emergent	26.4	32.6	32.5
	Usable	15.0	17.9	17.7
	Satisfactory	3.1	4.1	2.4
	Missing Value	5.4	5.4	5.4
Oral Expressive	Absent	47.2	46.2	39.8
	Primitive	34.9	31.5	36.6
	Emergent	8.4	12.8	14.1
	Usable	2.0	3.5	4.2
	Satisfactory	0.3	0.3	0.1
	Missing Value	7.1	5.6	5.2
Cooperativeness	Observed	4.2	9.2	9.9
	Liability	21.9	20.2	18.5
	Asset	61.6	54.7	52.6
	Missing Values	12.4	15.9	19.0
Purposefulness	Observed	4.5	8.4	8.3
	Liability	40.9	35.5	32.3
	Asset	45.2	49.7	50.6
	Missing Values	9.4	6.4	8.8
Manageability	Observed	3.9	10.0	11.8
	Liability	21.3	17.7	14.8
	Asset	69.0	66.8	62.2
	Missing Values	5.7	5.5	11.1
Independence	Observed	6.1	10.3	9.8
	Liability	40.8	40.8	39.4
	Asset	36.7	39.3	40.0
	Missing Values	16.3	9.6	10.9

Test Item	Judgment	Percent		
		(1)	(2)	Year (3)
Attentiveness	Observed	4.8	7.8	9.3
	Liability	35.0	29.8	27.5
	Asset	48.7	50.9	52.0
	Missing Values	11.4	11.4	11.2
Responsiveness	Observed	5.7	8.7	8.8
	Liability	33.7	31.0	28.1
	Asset	50.1	50.8	52.0
	Missing Values	10.5	9.5	11.2
Flexibility	Observed	4.2	7.2	8.6
	Liability	26.7	25.6	21.9
	Asset	39.6	40.1	44.5
	Missing Values	29.5	27.0	25.1
Persistence	Observed	4.2	7.1	8.2
	Liability	38.8	36.8	30.4
	Asset	36.8	35.4	44.6
	Missing Values	20.2	20.7	16.8
Physical Activity	Observed	3.7	6.4	9.4
	Liability	33.5	31.9	28.0
	Asset	56.7	58.0	59.8
	Missing Values	6.0	3.7	2.9
Curiosity	Observed	4.3	6.6	6.9
	Liability	29.7	23.3	22.1
	Asset	32.1	32.2	36.4
	Missing Values	34.0	37.8	34.6
Curiosity	Observed	4.8	7.7	6.9
	Liability	30.8	23.1	23.7
	Asset	31.6	32.7	35.4
	Missing Values	32.7	36.4	34.0
Flexibility	Observed	3.5	6.2	7.7
	Liability	28.4	27.1	24.1
	Asset	40.9	41.5	44.0
	Missing Values	27.2	25.2	24.1

Test Item	Judgment	Percent		
		Year (1)	(2)	(3)
Perseverance	Observed	3.1	6.8	7.9
	Liability	39.5	37.8	33.1
	Asset	38.0	36.3	42.7
	Missing Values	19.4	19.1	16.3
Attention Span	Observed	4.9	8.4	8.7
	Liability	34.5	30.9	29.8
	Asset	48.8	49.1	51.3
	Missing Values	11.7	11.6	10.3
Reaction to Reward	Observed	4.3	5.6	6.5
	Liability	6.5	7.4	5.6
	Asset	16.2	10.7	10.5
	Missing Values	73.0	76.3	77.4
Reaction to Punishment	Observed	0.7	1.2	0.7
	Liability	4.2	4.6	4.8
	Asset	7.9	4.5	2.0
	Missing Values	87.2	89.7	92.5
Self Concept	Observed	9.1	9.4	7.5
	Liability	24.6	23.9	19.6
	Asset	29.6	27.4	28.6
	Missing Values	36.7	39.4	44.4
Energy Level	Observed	2.8	7.1	9.0
	Liability	33.9	31.8	26.9
	Asset	54.0	52.7	55.1
	Missing Values	9.3	8.3	9.0
Sense of Humor	Observed	1.6	3.8	2.7
	Liability	8.0	10.3	8.4
	Asset	15.6	10.5	12.3
	Missing Values	74.8	75.3	76.5
Motivation and Interest	Observed	3.6	9.2	7.8
	Liability	40.6	34.5	36.5
	Asset	48.3	49.1	50.3
	Missing Values	7.5	7.2	5.4

Test Item	Judgment	Percent		
		(1)	(2)	Year (3)
Self Control	Observed	3.7	6.2	7.1
	Liability	25.5	26.9	27.4
	Asset	51.4	46.9	50.3
	Missing Values	19.3	20.1	15.2
Mobility	Observed	2.6	1.8	3.4
	Liability	6.3	6.4	2.4
	Asset	44.0	40.5	41.2
	Missing Values	47.1	51.4	53.1
Gross Coordination	Observed	2.6	2.4	4.8
	Liability	10.3	7.7	5.5
	Asset	82.1	86.6	87.3
	Missing Values	5.1	3.3	2.3
Eye-Hand Coordination	Observed	6.7	4.2	7.3
	Liability	16.5	17.0	11.9
	Asset	53.8	54.7	58.4
	Missing Values	23.0	24.1	22.4
Sensory Discrimination	Observed	7.5	8.3	13.3
	Liability	15.4	16.9	11.7
	Asset	53.8	55.4	58.9
	Missing Values	23.3	19.4	16.1
Spatial Orientation	Observed	4.3	3.6	8.6
	Liability	10.0	11.3	6.5
	Asset	69.7	70.5	74.6
	Missing Values	16.0	14.6	10.4
Vocabulary	Observed	0.8	0.3	0.6
	Liability	9.8	4.5	2.0
	Asset	5.7	9.9	11.6
	Missing Values	83.8	85.2	85.8
Creativity	Observed	0.7	0.3	1.5
	Liability	10.7	6.6	1.9
	Asset	8.7	4.4	4.1
	Missing Values	79.9	88.7	92.5

Test Item	Judgment	Percent		
		(1)	(2)	Year (3)
Problem Solving Skill	Observed	2.4	1.8	4.3
	Liability	13.2	14.2	8.3
	Asset	26.6	27.0	27.5
	Missing Values	57.8	57.0	59.9
Ability to Generalize	Observed	1.6	1.4	3.8
	Liability	10.5	12.9	8.0
	Asset	28.5	26.4	26.4
	Missing Values	59.4	59.3	61.7
Abstracting Ability	Observed	0.8	0.9	2.8
	Liability	9.0	6.9	3.1
	Asset	10.4	8.7	7.2
	Missing Values	79.8	83.6	86.8
Sees Relationships	Observed	1.7	1.5	3.0
	Liability	11.0	9.4	6.2
	Asset	41.6	43.0	43.2
	Missing Values	45.7	46.0	47.6
Memory	Observed	0.7	0.4	1.4
	Liability	6.8	5.4	2.3
	Asset	21.3	23.1	25.3
	Missing Values	71.3	71.1	70.9
Symbolic Ability	Observed	0.4	0.1	0.6
	Liability	4.8	2.6	1.3
	Asset	10.9	10.5	13.9
	Missing Values	83.9	86.8	84.2

Percent of Judged Scores for Each Test Item on the
Summary Rating Form for All Subjects for
 All Situations for Each Year

Test Item	Judgment	Percent		
		Year		
		(1)	(2)	(3)
Manipulation	Absent	4.8	6.1	0.7
	Primitive	44.2	34.7	38.8
	Emergent	25.2	33.3	34.7
	Usable	19.0	20.4	22.4
	Satisfactory	5.4	3.4	2.7
	Missing Value	1.4	2.0	0.7
Manual Speech	Absent	58.5	53.1	47.6
	Primitive	19.0	13.6	11.6
	Emergent	12.2	13.6	19.0
	Usable	6.1	13.6	13.6
	Satisfactory	0.7	4.1	0.7
	Missing Value	3.4	2.0	7.5
Oral Speech	Absent	47.6	43.5	36.7
	Primitive	35.4	32.7	31.3
	Emergent	10.9	13.6	17.0
	Usable	3.4	8.2	7.5
	Satisfactory	1.4	1.4	0.7
	Missing Value	1.4	0.7	6.8
Braille Writing	Absent	67.3	64.6	63.3
	Primitive	5.4	2.0	0.7
	Emergent	1.4	2.0	2.0
	Usable	1.4	6.1	0.0
	Satisfactory	0.0	0.7	0.0
	Missing Value	24.5	24.5	34.0
Printing Writing	Absent	58.5	68.7	51.0
	Primitive	7.5	5.4	3.4
	Emergent	9.5	5.4	9.5
	Usable	5.4	6.1	6.8
	Satisfactory	0.0	6.1	0.0
	Missing Value	19.0	8.2	29.3

Test Item	Judgment	Percent		
		(1)	(2)	Year (3)
Manipulation	Absent	1.4	3.4	0.0
	Primitive	32.7	32.7	23.8
	Emergent	31.3	25.9	35.4
	Usable	29.3	27.9	37.4
	Satisfactory	4.8	9.5	3.4
	Missing Value	0.7	0.7	0.0
Manual Speech	Absent	49.0	38.8	33.3
	Primitive	16.3	15.6	16.3
	Emergent	20.4	21.8	21.8
	Usable	8.8	16.3	19.7
	Satisfactory	0.7	6.1	0.7
	Missing Value	4.8	1.4	8.2
Oral Speech	Absent	50.3	45.6	34.7
	Primitive	26.5	25.9	23.8
	Emergent	14.3	13.6	19.0
	Usable	4.8	12.2	12.2
	Satisfactory	2.0	2.0	2.0
	Missing Value	2.0	0.7	8.2
Braille Reading	Absent	66.0	64.6	63.3
	Primitive	4.1	3.4	0.7
	Emergent	2.0	3.4	0.7
	Usable	2.0	4.8	1.4
	Satisfactory	0.0	0.7	0.0
	Missing Value	25.9	23.1	34.0
Print Reading	Absent	59.9	68.7	49.7
	Primitive	4.8	2.0	5.4
	Emergent	8.2	5.4	10.2
	Usable	5.4	8.8	6.1
	Satisfactory	0.7	6.1	0.7
	Missing Value	21.1	8.8	27.9
Expressive Vocabulary	Absent	32.7	31.3	15.0
	Primitive	46.9	37.4	51.0
	Emergent	12.9	13.6	21.8
	Usable	6.8	11.6	12.2
	Satisfactory	0.0	5.4	0.0
	Missing Value	0.7	0.7	0.0

Test Item	Judgment	Percent		
		(1)	(2)	Year (3)
Receptive Vocabulary	Absent	25.2	21.1	9.5
	Primitive	32.0	27.2	34.7
	Emergent	31.3	27.2	29.3
	Usable	9.5	17.7	25.2
	Satisfactory	1.4	6.1	1.4
	Missing Value	0.7	0.7	0.0
Eating	75-100% Suprv.	28.6	37.4	23.8
	50- 75% Suprv.	14.3	17.7	22.4
	25- 50% Suprv.	19.7	16.3	21.1
	0- 25% Suprv.	37.4	27.9	32.0
	Missing Value	0.0	0.7	0.7
Dressing	75-100% Suprv.	38.8	39.5	28.6
	50- 75% Suprv.	12.2	10.2	20.4
	25- 50% Suprv.	13.6	6.8	12.2
	0- 25% Suprv.	10.9	7.5	10.2
	Missing Value	24.5	36.1	28.6
Toileting	75-100% Suprv.	28.6	21.1	16.3
	50- 75% Suprv.	12.2	6.1	12.2
	25- 50% Suprv.	7.5	4.3	5.4
	0- 25% Suprv.	11.6	5.4	0.0
	Missing Value	40.1	62.6	66.0
Bathing/ Washing	75-100% Suprv.	24.5	15.6	19.7
	50- 75% Suprv.	15.0	5.4	12.2
	25- 50% Suprv.	11.6	9.5	6.1
	0- 25% Suprv.	10.9	6.1	6.1
	Missing Value	38.1	63.3	55.8
In Class	75-100% Suprv.	55.1	63.3	61.9
	50- 75% Suprv.	21.8	17.0	23.1
	25- 50% Suprv.	8.8	9.5	10.9
	0- 25% Suprv.	2.7	6.8	2.0
	Missing Value	11.6	3.4	2.0
At Play Alone	75-100% Suprv.	32.0	36.1	31.3
	50- 75% Suprv.	26.5	15.0	25.9
	25- 50% Suprv.	19.7	21.1	26.5
	0- 25% Suprv.	18.4	23.8	15.0
	Missing Value	3.4	4.1	1.4

Test Item	Judgment	Percent		
		(1)	(2)	(3)
At Play in Groups	75-100% Suprv.	33.3	28.6	18.4
	50- 75% Suprv.	25.2	14.3	21.8
	25- 50% Suprv.	15.6	12.2	11.6
	0- 25% Suprv.	15.0	13.6	6.1
	Missing Value	10.9	31.3	42.2
Amount of Learning ADL	75-100% Suprv.	4.1	1.4	0.0
	50- 75% Suprv.	27.9	23.8	16.3
	25- 50% Suprv.	36.1	38.8	38.1
	0- 25% Suprv.	29.9	28.6	38.8
	Missing Value	2.0	7.5	6.8
Ability to Learn ADL	Absent	0.0	0.0	0.0
	Primitive	11.6	15.0	8.2
	Emergent	18.4	16.3	19.0
	Usable	34.0	29.9	32.0
	Satisfactory	36.1	38.8	40.8
Amount of Learning Formal Structured	Missing Value	0.0	0.0	0.0
	Absent	7.5	5.4	2.0
	Primitive	39.5	25.2	26.5
	Emergent	38.8	43.5	48.3
	Usable	13.6	23.1	23.1
Ability to Learn Formal Structured	Satisfactory	0.7	2.7	0.0
	Missing Value	0.0	0.0	0.0
	Absent	0.7	0.0	0.0
	Primitive	16.3	17.0	15.6
	Emergent	26.5	19.0	21.8
Ability to Learn Unstructured Social	Usable	34.7	41.5	41.5
	Satisfactory	20.4	22.4	21.1
	Missing Value	1.4	0.0	0.0
	Absent	10.2	1.4	0.7
	Primitive	44.2	36.1	31.3
Amount of Learning Unstructured Social	Emergent	34.0	39.5	46.9
	Usable	9.5	19.7	19.7
	Satisfactory	1.4	3.4	1.4
	Missing Value	0.7	0.0	0.0

Test Item	Judgment	Percent		
		Year		
		(1)	(2)	(3)
Ability to Learn	Absent	3.4	0.0	0.0
	Primitive	19.7	17.7	15.0
	Emergent	20.4	21.1	25.2
	Unstructured	36.7	29.9	31.3
	Social	19.0	31.3	28.6
	Missing Value	0.7	0.0	0.0

Appendix J

Mean Judged Score for Each Test Item on the Behavior Rating Form
and Summary Rating Form for Each Subject for All
Situations Combined for Each Year

Mean Judged Score for Each Test Item on the Behavior Rating Form
 for Each Subject for All Situations Combined for Year One

Sub Domain

Score

1	Com	1.08	2.29	2.58	2.25	1.92	2.08	2.21	1.08
	Adj	1.67	1.46	1.54	1.00	1.42	1.83	0.83	1.17
	Lrn	0.63	0.96	1.46	1.13	0.29	0.13	0.46	1.33
		0.04	2.04	1.13	1.67	2.00	0.00	0.00	0.33
									0.71
								0.00	1.08
								0.00	0.00
2	Com	1.08	2.25	2.08	1.83	1.75	1.50	1.83	1.42
	Adj	1.21	1.21	1.04	1.04	1.58	1.38	0.71	0.83
	Lrn	0.92	0.79	0.83	1.38	0.13	0.00	0.46	0.96
		0.29	1.38	0.71	0.63	1.50	0.08	0.00	0.08
								0.13	0.00
								0.75	0.00
								0.00	0.00
3	Com	1.08	2.54	2.79	1.96	2.29	1.75	2.29	1.17
	Adj	0.96	1.38	1.38	1.42	1.46	1.21	0.92	1.13
	Lrn	0.88	1.17	1.46	1.33	0.13	0.00	0.33	1.46
		1.25	2.04	1.58	1.13	1.50	0.08	0.13	0.71
								0.63	0.17
								1.00	0.00
								0.00	0.00
4	Com	1.29	3.08	3.58	1.58	2.75	2.46	2.08	1.42
	Adj	2.46	1.50	2.79	1.75	2.00	2.29	1.71	1.63
	Lrn	1.75	1.67	1.50	2.04	1.21	0.54	1.29	2.00
		0.96	2.88	2.25	2.33	2.50	0.00	0.08	1.67
								1.63	0.38
								1.96	1.00
								0.00	0.00
5	Com	4.29	3.58	4.17	2.38	3.58	3.21	2.71	1.92
	Adj	2.75	2.25	2.88	2.25	2.33	2.63	1.83	1.79
	Lrn	1.75	1.92	2.00	2.50	1.46	0.83	1.67	2.46
		1.67	2.88	2.54	2.71	2.71	1.13	0.38	1.83
								1.71	1.00
								2.42	1.50
								1.00	1.00
6	Com	1.83	3.42	3.42	1.79	3.04	2.67	2.79	1.33
	Adj	2.50	2.13	2.67	2.17	2.46	2.46	1.96	2.17
	Lrn	2.13	2.00	2.17	2.29	0.75	0.13	2.17	2.50
		2.25	3.00	2.88	2.58	3.00	0.33	0.92	1.38
								1.50	0.25
								1.79	1.25
								0.88	0.88
7	Com	1.67	4.42	4.17	1.92	3.96	4.04	3.50	1.21
	Adj	2.88	2.79	2.83	2.50	2.75	2.79	2.58	2.58
	Lrn	2.63	2.63	2.38	2.88	2.13	1.17	2.71	2.83
		2.00	2.88	2.75	2.88	2.88	1.50	1.25	2.50
								2.75	2.67
								2.25	2.38
								1.25	1.25
8	Com	1.63	3.71	3.96	1.88	2.88	2.63	2.46	1.67
	Adj	2.17	1.54	2.58	1.75	1.63	1.83	1.63	1.38
	Lrn	1.38	1.50	1.38	1.83	1.04	0.54	1.13	2.08
		0.79	2.75	2.04	2.04	2.38	0.13	0.29	1.13
								1.38	0.50
								1.79	0.88
								0.04	0.04

Sub	Domain	Score									
9	Com	0.83	1.04	2.92	1.08	2.00	1.67	2.21	0.92		
	Adj	2.46	1.67	2.63	1.67	1.63	1.71	1.58	0.71	2.13	1.08
	Lrn	1.00	1.63	0.88	1.58	0.29	0.00	0.75	1.38	0.00	1.67
		1.88	2.75	0.75	1.46	2.00	0.04	0.00	0.92	0.79	0.29
10	Com	3.00	4.33	3.50	1.33	2.38	3.96	2.75	2.25		
	Adj	3.00	2.96	3.00	2.63	2.75	2.96	2.21	2.71	2.88	2.25
	Lrn	2.25	2.50	2.67	2.92	1.13	0.63	2.88	3.00	2.00	3.00
		2.63	3.00	3.00	3.00	1.38	1.13	1.63	1.50	1.04	2.04
11	Com	2.75	4.00	3.50	1.33	2.83	3.13	2.04	1.92		
	Adj	2.75	2.67	2.88	2.04	2.75	2.67	2.00	2.50	2.92	2.08
	Lrn	1.88	2.04	2.54	2.79	1.00	0.25	2.83	2.92	0.88	2.67
		2.38	2.88	2.38	2.88	3.00	1.13	0.67	1.17	1.00	0.88
12	Com	1.50	3.79	3.08	1.88	2.83	2.63	2.33	0.75		
	Adj	2.46	2.54	2.96	1.83	2.63	2.25	1.92	2.08	2.83	2.00
	Lrn	1.79	1.92	1.88	2.63	0.63	0.00	2.33	2.63	0.54	2.00
		1.79	2.92	2.79	2.50	2.54	0.17	0.50	0.88	0.67	0.58
13	Com	1.75	1.79	2.79	1.17	2.17	1.92	1.54	1.00		
	Adj	2.50	2.08	2.58	1.54	2.21	2.25	1.58	2.00	2.38	1.21
	Lrn	1.21	1.79	2.00	2.38	0.33	0.00	1.46	2.08	0.54	2.00
		1.92	2.75	1.75	1.83	1.58	0.00	0.04	0.63	0.50	0.33
14	Com	1.04	3.92	3.38	1.67	3.08	2.75	2.63	1.17		
	Adj	2.92	2.88	3.00	2.04	2.58	2.58	2.08	2.50	2.88	1.88
	Lrn	1.79	2.17	2.46	2.75	0.38	0.00	2.25	2.88	0.75	2.71
		1.96	2.75	2.75	2.63	1.21	0.75	1.38	1.38	0.88	1.75
15	Com	2.79	4.00	3.46	1.29	3.21	3.42	3.08	1.96		
	Adj	2.71	2.67	2.58	2.25	2.42	2.50	2.04	2.04	2.71	2.17
	Lrn	2.42	2.38	2.50	2.92	0.75	0.13	2.71	2.92	1.25	2.92
		2.04	3.00	2.75	2.75	2.63	1.13	1.13	0.71	1.33	1.08
16	Com	1.33	2.75	2.83	1.13	2.63	2.25	1.71	1.25		
	Adj	1.58	2.04	2.17	1.88	1.63	1.71	1.21	1.75	2.21	2.00
	Lrn	1.71	1.42	1.88	1.83	0.67	0.25	1.54	2.29	0.92	2.08
		2.58	3.00	1.83	2.13	2.58	0.04	0.50	0.79	0.71	0.63
17	Com	1.38	2.33	2.67	0.88	1.54	1.83	1.13	1.50		
	Adj	1.29	0.96	1.25	0.88	0.88	1.13	0.71	0.83	1.54	0.88
	Lrn	0.88	0.75	0.92	1.00	0.38	0.13	0.75	1.50	0.33	1.08
		1.63	1.88	1.25	1.08	0.92	0.04	0.08	0.29	0.25	0.17

Sub	Domain	Score										
18	Com	0.92	2.00	2.08	0.58	1.50	1.50	1.33	1.17			
	Adj	1.04	1.17	1.38	0.71	1.00	1.13	0.71	1.04	1.33	0.92	
	Lrn	0.88	0.71	1.00	1.04	0.42	0.13	0.88	1.42	0.38	1.08	1.00
19		1.46	2.04	1.21	1.33	1.17	0.00	0.13	0.29	0.21	0.25	0.21
	Com	1.21	2.96	3.04	1.63	2.46	2.08	2.63	1.42			
	Adj	2.04	1.63	2.25	1.33	1.83	2.13	1.29	1.08	1.67	1.08	
20		1.17	1.25	1.17	1.54	1.29	0.58	1.08	1.50	0.58	1.58	1.17
	Lrn	0.83	2.63	2.04	2.08	2.17	0.00	0.25	1.38	1.08	0.46	1.67
		1.33	3.33	3.08	1.67	2.38	2.04	2.08	1.67			
21	Com	2.13	1.92	2.38	1.71	1.83	1.96	1.58	1.83	2.25	1.67	
	Adj	1.71	1.50	1.75	2.13	0.13	0.00	1.63	2.21	0.38	1.92	2.13
	Lrn	1.63	2.88	2.42	2.33	2.79	0.25	0.38	0.71	0.75	0.21	1.17
22		0.21	2.96	1.96	2.21	2.83	0.21	0.21	0.46	0.83	0.04	1.08
	Com	2.04	4.04	3.71	1.25	3.25	2.71	1.88	1.46			
	Adj	2.17	2.17	2.58	2.08	2.08	2.50	2.17	2.08	2.67	1.88	
23		2.21	2.00	2.04	2.50	1.29	1.00	1.92	2.50	0.88	2.38	2.42
	Lrn	2.25	3.00	2.83	2.63	3.00	0.08	0.75	1.04	0.92	0.50	2.50
		0.79	1.67	1.83	2.13	0.42	0.04	1.25	2.29	0.46	2.13	1.71
24	Com	1.21	2.88	2.50	1.04	2.46	2.17	2.21	1.50			
	Adj	2.04	1.75	2.50	1.58	1.79	1.83	1.54	1.67	1.96	1.63	
	Lrn	1.75	1.58	1.58	1.75	0.04	0.00	1.13	2.17	0.13	1.58	2.04
25		1.88	2.92	2.08	1.79	2.33	0.17	0.50	0.63	0.42	0.04	1.00
	Com	1.17	4.17	3.75	1.54	3.29	3.08	2.33	1.88			
	Adj	2.50	2.08	2.75	2.00	2.50	2.08	1.92	2.04	2.54	1.71	
26		1.29	1.88	2.04	2.25	0.96	0.50	1.58	2.38	0.54	1.96	2.08
	Lrn	1.79	2.75	2.29	1.92	2.08	0.13	0.54	1.50	1.50	0.67	2.04
		0.71	4.54	4.75	1.67	3.54	3.42	3.92	0.88			
27	Com	0.88	1.04	0.88	1.08	0.63	0.54	0.71	1.54	0.33	1.00	0.92
	Adj	0.50	1.88	0.92	1.04	1.58	0.04	0.13	0.75	1.00	0.25	1.46
	Lrn	1.25	1.21	1.25	2.29	0.42	0.00	0.50	2.38	0.63	2.21	1.79
28		0.75	2.58	2.42	2.33	2.54	0.00	0.13	0.92	0.50	0.13	2.00
	Com	0.71	4.54	4.75	1.67	3.54	3.42	3.92	0.88			
	Adj	1.25	1.21	1.25	2.29	0.42	0.00	0.50	2.38	0.63	2.21	1.79
29		0.75	2.58	2.42	2.33	2.54	0.00	0.13	0.92	0.50	0.13	2.00
	Lrn	0.88	1.04	0.88	1.08	0.63	0.54	0.71	1.54	0.33	1.00	0.92
		0.50	1.88	0.92	1.04	1.58	0.04	0.13	0.75	1.00	0.25	1.46

Sub	Domain	Score									
27	Com	2.00	3.58	4.08	1.42	3.00	2.38	3.79	1.96		
	Adj	2.13	2.42	2.79	2.33	2.21	2.21	1.71	2.13	2.50	1.83
	Lrn	1.63	1.88	2.08	2.50	0.50	0.13	1.54	2.63	1.13	2.54
28		1.38	2.88	2.75	2.21	3.00	0.50	0.63	1.83	1.75	0.75
	Com	0.79	3.00	3.13	1.42	2.50	1.71	2.46	1.25		
	Adj	1.92	1.71	2.08	1.21	1.58	1.50	1.29	1.33	2.04	0.63
29		0.63	1.33	1.42	1.50	0.38	0.13	0.67	1.88	0.17	1.88
	Com	1.38	2.50	1.83	1.63	2.13	0.17	0.25	0.67	0.75	0.38
	Adj	0.79	1.29	1.50	1.38	0.21	0.04	0.67	2.17	0.08	1.58
30		2.21	2.83	2.04	1.33	2.21	0.17	0.29	0.75	0.71	0.21
	Com	1.13	2.29	2.13	0.88	1.38	1.33	1.38	1.21		
	Adj	1.00	1.00	1.29	0.92	0.96	1.00	0.63	0.83	1.00	0.63
31		0.67	0.75	0.92	0.83	0.42	0.33	0.71	1.00	0.46	1.00
	Com	0.50	1.54	0.71	0.67	1.21	0.00	0.08	0.08	0.08	0.04
	Adj	0.96	1.92	2.46	1.33	1.79	1.92	2.04	1.25		
32		0.75	0.67	0.88	1.08	0.46	0.29	0.67	1.29	0.67	1.21
	Com	1.17	2.46	1.38	1.42	1.58	0.25	0.29	0.46	0.42	0.33
	Adj	1.17	1.92	3.00	1.63	2.54	1.92	2.71	1.13		
33		1.38	2.58	1.21	1.83	2.29	0.33	0.33	0.67	0.75	0.29
	Com	0.79	1.08	0.88	1.33	0.50	0.46	1.25	1.29	0.54	1.17
	Adj	0.42	2.17	0.83	1.38	2.21	0.08	0.17	0.96	0.96	0.33
34		0.42	2.46	0.50	1.63	1.88	0.04	0.25	1.13	0.92	0.08
	Com	1.42	1.33	2.88	1.46	2.04	1.88	2.38	1.58		
	Adj	0.54	1.33	1.00	1.21	0.33	0.33	0.46	1.33	0.00	1.13
35		0.79	2.46	0.50	1.63	1.88	0.04	0.25	1.13	0.92	0.08
	Com	1.21	4.00	3.50	1.83	3.04	2.88	2.58	1.25		
	Adj	2.25	2.42	2.75	2.71	0.46	0.00	2.00	3.00	0.63	2.92

Sub	Domain	Score										
36	Com	1.21	3.42	3.33	1.13	2.75	3.04	2.63	1.46			
	Adj	2.42	1.46	2.58	1.04	2.17	2.00	1.17	0.75	2.13	1.21	
	Lrn	1.33	1.21	0.79	1.83	1.00	0.75	0.83	1.88	0.50	2.00	1.79
		1.13	2.38	1.63	1.17	2.42	0.04	0.17	1.25	1.08	0.00	1.46
37	Com	1.79	4.63	4.42	2.33	4.04	3.79	3.83	1.54			
	Adj	2.63	2.33	2.83	2.00	2.46	2.33	1.92	1.58	2.67	1.50	
	Lrn	1.38	1.88	1.83	2.50	0.67	0.46	1.38	2.42	0.08	2.58	2.38
		1.13	3.00	2.50	1.75	2.92	0.04	0.50	1.79	2.00	0.67	2.50
38	Com	2.04	3.54	3.79	1.33	3.38	3.04	2.17	2.25			
	Adj	2.13	1.67	2.21	1.96	2.50	2.04	1.46	1.42	2.00	2.00	
	Lrn	1.75	1.46	1.29	1.54	0.33	0.96	1.50	2.00	0.96	2.08	1.75
		2.13	2.71	2.21	1.92	2.17	0.42	0.46	1.83	1.63	0.88	1.88
39	Com	1.25	3.63	3.58	1.83	2.96	2.46	2.21	1.54			
	Adj	2.42	2.04	2.63	1.33	2.04	2.04	2.08	1.79	2.29	1.50	
	Lrn	1.50	2.08	1.58	1.50	0.75	0.38	1.42	1.92	0.42	1.88	2.21
		1.71	2.79	2.42	1.58	2.00	0.04	0.08	0.88	0.29	0.00	1.25
40	Com	1.96	2.58	3.63	1.42	2.88	2.75	2.75	2.38			
	Adj	2.21	1.42	2.58	1.17	1.67	1.96	1.79	1.17	1.58	0.83	
	Lrn	0.75	1.88	1.42	1.75	0.58	0.67	0.50	1.71	0.13	1.67	1.71
		0.63	2.88	1.08	1.50	2.42	0.13	0.33	1.13	1.58	0.21	1.83
41	Com	1.54	1.33	2.88	1.63	2.42	2.17	2.54	1.67			
	Adj	2.08	1.58	2.42	1.63	1.83	1.63	1.33	1.42	2.08	1.13	
	Lrn	1.13	1.29	1.33	1.67	1.04	0.21	1.58	1.83	1.33	1.92	1.88
		1.17	2.67	1.42	2.00	2.42	0.33	0.75	0.83	0.83	0.46	0.96
42	Com	1.42	4.04	3.88	1.75	3.54	3.13	2.46	2.04			
	Adj	2.54	2.42	2.88	2.08	2.00	2.83	2.42	2.38	2.75	1.92	
	Lrn	1.92	2.33	2.33	2.42	0.88	0.88	2.21	2.75	1.46	2.75	2.88
		1.25	3.00	2.75	2.25	3.00	0.00	0.50	1.50	1.25	0.75	2.38
43	Com	1.13	3.42	3.42	1.54	2.42	2.63	2.79	1.08			
	Adj	2.17	1.63	2.63	1.88	1.54	1.46	1.21	1.29	1.88	1.04	
	Lrn	1.17	1.17	1.25	1.71	0.38	0.00	1.25	1.54	0.46	1.75	1.63
		1.29	2.92	1.83	1.96	2.42	0.33	0.33	0.63	0.75	0.33	0.88
44	Com	1.38	3.08	3.29	1.42	2.71	2.54	2.33	1.88			
	Adj	2.71	2.42	2.92	2.00	2.38	2.63	2.25	2.42	2.75	1.92	
	Lrn	1.88	2.29	2.46	2.63	0.58	0.00	1.50	2.67	0.83	2.50	2.33
		1.25	2.92	2.46	2.38	2.29	0.25	0.46	1.00	1.00	0.25	1.79

Mean Judged Score for Each Test Item on the Behavior Rating Form
for Each Subject for all Situations Combined for Year Two

Sub	Domain	Score											
1	Com	1.04	3.50	3.33	1.79	2.96	2.63	2.71	1.75				
	Adj	1.33	1.38	1.58	1.00	1.25	1.21	0.42	0.83	1.25	0.38		
	Lrn	0.50	0.58	0.79	1.25	0.21	0.08	0.42	1.00	0.25	1.33	0.71	
		0.29	2.71	1.33	1.04	1.46	0.13	0.25	0.42	0.50	0.33	0.75	0.50
2	Com	0.96	2.08	2.88	1.50	1.75	1.92	1.58	1.50				
	Adj	1.13	1.21	1.71	1.04	0.83	0.92	0.50	0.83	1.21	0.58		
	Lrn	0.54	0.54	0.79	0.83	0.00	0.08	0.17	1.00	0.08	1.00	0.67	
		0.33	2.17	0.58	0.83	1.75	0.17	0.25	0.29	0.25	0.08	0.46	0.00
3	Com	1.08	2.33	3.08	1.21	2.63	1.58	2.38	1.08				
	Adj	1.46	1.75	1.92	1.54	1.54	1.50	0.83	1.04	1.63	0.71		
	Lrn	0.58	0.88	1.13	1.13	0.08	0.00	0.21	1.63	0.08	1.38	0.92	
		0.83	2.79	1.38	1.42	1.75	0.13	0.17	0.58	0.58	0.25	0.71	0.58
4	Com	2.13	3.75	4.17	1.63	2.54	3.21	3.21	1.13				
	Adj	2.58	2.29	3.00	1.04	1.88	2.38	1.54	0.96	2.71	0.88		
	Lrn	0.75	1.54	1.00	2.38	0.67	0.08	0.92	2.58	0.25	2.33	1.71	
		1.88	2.92	2.50	2.25	2.96	0.00	0.17	0.96	0.79	0.17	2.42	0.67
5	Com	4.71	3.58	4.50	1.42	2.42	3.25	3.58	2.75				
	Adj	2.58	2.38	2.75	2.00	2.63	2.58	1.63	1.50	2.75	1.42		
	Lrn	1.63	1.96	2.04	2.29	0.25	0.00	1.63	2.54	0.38	2.54	2.00	
		1.63	3.00	2.38	2.63	3.00	1.50	0.50	1.75	1.13	0.75	2.38	1.63
6	Com	2.67	3.96	4.08	1.79	3.17	3.08	2.96	2.33				
	Adj	2.17	1.71	3.00	2.04	1.88	2.42	1.38	1.63	2.54	1.58		
	Lrn	1.58	1.42	1.50	2.21	0.04	0.00	0.88	2.71	0.88	2.21	1.92	
		1.75	2.88	2.29	2.33	2.88	0.29	0.25	1.54	0.92	0.50	2.04	1.00
7	Com	2.00	4.33	4.29	1.63	2.88	3.13	3.50	1.71				
	Adj	2.00	2.67	2.50	2.33	2.21	2.25	1.17	1.54	2.50	1.79		
	Lrn	1.58	1.54	1.50	2.00	0.13	0.00	1.13	2.88	0.75	2.42	2.46	
		1.38	3.00	2.38	2.58	3.00	0.58	0.25	1.13	0.71	0.13	2.25	1.13
8	Com	1.25	3.83	3.21	1.46	2.38	2.33	2.54	1.25				
	Adj	1.54	1.50	2.88	1.38	1.71	1.79	0.83	0.67	2.04	0.63		
	Lrn	0.58	0.83	0.92	1.46	0.13	0.00	0.79	2.13	0.38	1.79	1.58	
		0.33	2.33	1.25	0.67	1.92	0.00	0.00	0.50	0.63	0.13	1.29	0.63

Sub	Domain	Score											
9	Com	1.00	0.96	3.08	1.50	2.42	2.13	2.46	1.75				
	Adj	1.71	2.00	2.38	1.17	1.46	1.58	0.67	0.96	2.25	0.21		
	Lrn	0.50	0.75	1.13	1.29	0.00	0.00	0.33	2.21	0.08	1.58	0.71	
		0.38	2.75	0.25	1.08	1.38	0.00	0.00	0.25	0.25	0.00	0.96	0.75
10	Com	2.29	2.33	4.29	1.42	3.83	2.58	3.63	2.00				
	Adj	2.25	2.71	3.00	2.21	2.33	2.75	1.38	1.58	2.96	1.25		
	Lrn	1.38	1.50	2.21	2.46	0.25	0.00	1.83	2.75	0.63	2.58	2.25	
		1.25	3.00	0.96	2.42	2.88	0.63	0.00	1.38	1.25	0.13	2.25	1.25
11	Com	2.79	4.25	3.67	1.50	3.79	2.79	3.50	2.58				
	Adj	2.04	2.75	2.79	2.58	2.58	2.21	1.42	1.75	2.79	1.04		
	Lrn	0.92	1.54	1.88	2.38	0.38	0.13	1.58	2.79	0.71	2.50	2.17	
		1.25	2.88	2.25	2.58	3.00	1.38	0.25	1.58	0.96	0.75	1.96	1.13
12	Com	1.83	4.58	4.00	1.38	3.63	3.04	3.83	1.13				
	Adj	2.13	2.75	2.83	2.54	2.58	2.54	1.83	2.00	2.79	1.00		
	Lrn	0.54	1.83	1.79	2.50	0.38	0.00	1.13	2.83	0.46	2.83	2.83	
		1.13	2.88	2.63	2.54	2.88	0.88	0.00	1.67	1.17	0.25	2.29	1.38
13	Com	2.38	1.04	3.58	1.29	2.96	2.46	3.04	1.21				
	Adj	2.42	2.42	2.92	1.38	2.29	2.13	1.46	1.13	2.63	1.08		
	Lrn	1.17	1.29	0.96	2.42	0.46	0.00	0.63	2.08	0.33	2.04	1.67	
		0.88	2.75	0.21	2.04	2.29	0.88	0.04	1.08	0.88	0.00	2.38	1.00
14	Com	1.21	4.75	4.46	1.25	3.54	3.58	4.33	1.13				
	Adj	2.38	2.71	3.00	2.46	2.88	2.63	1.71	2.29	2.92	1.33		
	Lrn	1.46	2.08	2.54	2.71	0.63	0.13	1.63	2.75	1.25	2.63	2.75	
		1.25	3.00	3.00	3.00	1.63	0.75	2.00	1.38	0.50	2.50	1.75	1.38
15	Com	2.79	4.46	4.17	1.63	3.08	3.25	4.13	2.00				
	Adj	2.25	2.67	2.88	1.92	2.67	2.42	1.63	1.79	2.75	0.83		
	Lrn	1.21	1.75	1.83	2.58	0.25	0.00	1.00	2.54	0.50	2.46	2.50	
		0.88	3.00	2.75	2.63	2.79	1.00	0.00	1.67	1.33	0.38	2.33	1.38
16	Com	0.75	3.21	3.00	1.38	2.33	2.25	2.00	1.25				
	Adj	2.38	2.08	2.42	2.13	2.17	2.29	2.13	2.13	2.33	2.04		
	Lrn	1.96	2.04	1.88	2.17	0.63	0.54	1.88	2.42	0.38	2.33	2.38	
		1.75	2.63	2.42	2.46	2.17	0.00	0.50	1.17	1.13	0.38	0.96	0.75
17	Com	1.58	2.38	2.67	1.00	2.13	1.96	1.88	1.58				
	Adj	1.54	1.58	1.83	1.13	1.21	1.54	0.54	0.83	1.25	0.33		
	Lrn	0.50	0.54	0.83	0.92	0.00	0.00	0.25	1.00	0.21	0.88	0.79	
		0.96	2.33	0.75	0.96	0.83	0.38	0.17	0.25	0.29	0.29	0.42	0.46

Sub	Domain	Score									
18	Com	1.29	2.04	2.50	0.96	2.04	1.79	1.67	1.88		
	Adj	0.71	1.42	1.38	0.96	0.88	1.13	0.38	0.79	1.08	0.38
	Lrn	0.42	0.38	0.96	0.88	0.25	0.13	0.38	0.75	0.33	0.96
		0.83	2.00	0.75	0.50	0.88	0.33	0.29	0.33	0.33	0.46
19	Com	0.88	3.38	3.46	0.96	2.58	2.54	2.33	1.21		
	Adj	1.46	1.67	2.46	1.17	1.75	1.92	0.96	1.17	2.08	0.71
	Lrn	0.63	1.00	0.88	1.67	0.13	0.25	0.13	1.58	0.38	1.33
		1.00	2.92	1.42	0.88	1.63	0.42	0.29	0.38	0.38	0.25
20	Com	0.92	3.46	3.38	1.13	2.83	1.92	2.46	1.29		
	Adj	1.71	2.17	2.58	1.58	1.71	2.00	1.00	1.04	2.25	1.00
	Lrn	0.92	1.00	1.79	1.92	0.13	0.00	0.33	2.08	0.17	1.63
		0.92	2.83	1.96	1.29	2.42	0.13	0.13	0.50	0.46	0.13
21	Com	1.21	3.25	3.29	1.08	2.54	2.38	2.54	1.75		
	Adj	1.63	1.63	2.29	1.67	1.79	1.83	1.08	1.25	2.17	1.33
	Lrn	1.08	1.04	1.54	1.83	0.46	0.00	0.13	2.21	0.25	2.58
		1.29	2.38	1.21	1.17	2.08	0.08	0.04	0.63	0.75	0.00
22	Com	1.04	3.50	3.88	1.17	2.58	2.46	2.29	1.04		
	Adj	2.21	1.88	2.46	1.21	1.83	1.67	1.08	0.50	2.38	0.58
	Lrn	0.63	0.79	0.46	1.38	0.17	0.08	0.08	1.75	0.08	1.75
		0.21	2.50	1.92	1.58	1.75	0.00	0.00	0.96	0.42	0.00
23	Com	0.96	3.92	4.00	1.04	3.58	2.50	3.17	1.63		
	Adj	2.29	2.50	2.75	1.42	2.00	2.21	1.38	1.13	2.75	1.13
	Lrn	1.25	1.54	1.63	2.25	0.08	0.00	0.38	2.71	0.13	2.58
		1.21	3.00	2.17	2.21	2.50	0.13	0.29	1.25	0.83	0.17
24	Com	1.13	4.13	4.13	1.25	2.38	2.83	2.96	1.96		
	Adj	1.46	1.79	1.83	1.33	1.42	1.50	0.75	1.08	2.17	0.67
	Lrn	0.79	0.88	1.21	1.13	0.38	0.00	0.46	2.00	0.21	1.58
		1.75	3.00	2.63	1.58	2.75	0.21	0.42	0.79	0.71	0.08
25	Com	1.25	3.04	3.71	1.63	2.79	2.25	2.92	1.38		
	Adj	2.50	2.29	2.79	1.54	2.25	2.00	1.42	1.21	2.71	1.04
	Lrn	1.04	1.42	1.17	2.29	0.38	0.00	0.46	2.75	0.00	2.63
		0.88	3.00	1.75	1.42	2.50	0.08	0.25	1.17	0.79	0.04
25	Com	1.08	4.92	4.75	1.88	3.92	3.29	3.67	1.42		
	Adj	2.13	2.29	2.92	2.04	2.29	2.38	1.83	1.83	2.92	2.00
	Lrn	1.79	1.92	1.88	2.46	0.42	0.00	0.88	2.50	0.63	2.67
		1.88	3.00	2.50	2.88	2.75	0.04	0.50	1.13	1.13	0.21

Sub	Domain	Score										
27	Com	2.38	4.00	3.33	1.83	2.67	3.00	2.54	1.92			
	Adj	2.71	2.96	2.71	2.96	2.88	2.75	2.75	2.88	2.83	2.96	
	Lrn	2.88	2.88	2.75	2.96	1.50	0.71	2.71	2.63	1.58	2.96	2.83
28	Com	2.00	3.00	3.00	2.75	2.50	1.17	0.38	1.79	1.54	0.54	1.63
	Adj	1.33	3.63	2.92	1.83	2.42	2.46	2.29	2.00			
	Lrn	2.42	2.38	2.75	2.67	2.79	2.71	2.63	2.54	2.96	2.21	
29	Com	1.75	3.00	2.33	2.50	2.33	0.13	0.25	0.83	1.08	0.67	1.46
	Adj	2.08	2.54	2.29	2.33	1.21	0.67	2.21	2.38	1.33	2.46	2.63
	Lrn	1.38	2.63	1.83	1.71	1.96	0.25	0.17	1.00	0.92	0.50	1.08
30	Com	1.38	2.71	3.04	1.63	2.54	2.25	2.21	1.00			
	Adj	1.83	1.50	2.08	1.63	2.67	2.58	2.50	2.41	2.83	2.08	
	Lrn	1.75	1.58	1.21	1.75	0.92	0.63	1.38	1.38	0.17	1.42	1.33
31	Com	0.75	1.92	1.42	1.58	1.71	0.00	0.25	0.58	0.88	0.25	1.13
	Adj	1.88	2.96	2.67	1.29	2.25	2.04	2.04	1.42			
	Lrn	1.21	1.46	1.08	1.42	0.42	0.08	1.08	1.17	0.71	1.46	1.46
32	Com	0.96	2.29	1.63	1.71	1.83	0.00	0.08	0.71	0.88	0.25	1.13
	Adj	1.67	3.00	2.79	1.92	2.38	2.00	2.13	1.33			
	Lrn	1.63	1.33	1.75	1.08	1.25	1.42	1.42	1.21	1.50	1.17	
33	Com	1.17	1.46	1.17	1.38	0.75	0.04	1.29	1.25	0.29	1.33	1.67
	Adj	0.96	2.29	1.63	1.71	1.83	0.00	0.08	0.71	0.88	0.25	1.13
	Lrn	1.54	2.83	1.50	2.63	2.29	0.25	0.08	1.63	1.79	1.04	1.46
34	Com	1.54	2.83	1.50	2.63	2.29	0.25	0.08	1.63	1.79	1.04	1.46
	Adj	1.83	1.63	3.75	1.58	2.54	2.38	2.04	1.71			
	Lrn	2.38	2.75	2.21	2.46	2.58	2.58	2.13	2.50	2.50	2.25	
35	Com	2.42	2.42	2.50	2.50	0.21	0.00	1.83	2.29	0.46	2.42	2.33
	Adj	2.42	2.42	1.50	2.63	2.29	0.25	0.08	1.63	1.79	1.04	1.46
	Lrn	1.54	2.83	1.50	2.63	2.29	0.25	0.08	1.63	1.79	1.04	1.46
36	Com	0.96	2.29	1.63	1.71	1.83	0.00	0.08	0.71	0.88	0.25	1.13
	Adj	1.83	1.63	3.75	1.58	2.54	2.38	2.04	1.71			
	Lrn	1.67	3.00	2.79	1.92	2.38	2.00	2.13	1.33			

		Sub	Domain	Score									
36	Com	0.79	3.54	2.75	1.21	2.29	2.13	1.96	1.38				
		2.50	1.92	2.58	2.08	1.96	2.17	2.42	1.88	1.75	1.42		
		1.58	2.29	1.88	2.04	0.83	0.42	1.92	1.71	0.38	1.92	2.29	
		1.96	2.75	2.54	2.33	2.46	0.00	0.17	1.17	1.29	0.38	1.38	0.54 0.13
37	Adj	1.08	4.00	3.38	1.33	2.63	2.46	2.17	1.67				
		2.38	2.38	2.54	2.42	2.42	2.58	2.67	2.38	2.67	2.00		
		2.04	2.63	2.38	2.54	0.88	0.21	2.33	2.71	0.17	2.58	2.38	
		1.88	2.92	2.67	2.71	2.67	0.25	0.38	1.88	1.75	0.63	1.88	0.75 0.25
38	Lrn	2.67	4.29	3.58	1.75	2.88	3.38	2.75	1.67				
		2.63	2.75	2.75	2.88	2.88	2.88	2.88	2.88	2.88	2.75		
		2.83	2.88	2.88	2.88	1.71	1.13	2.71	2.79	1.00	2.92	2.83	
		1.88	3.00	3.00	2.75	2.50	0.50	0.29	2.00	2.04	0.88	1.75	1.25 0.50
39	Com	1.67	3.58	3.33	1.71	3.00	3.04	2.71	1.79				
		2.54	2.38	2.63	2.46	2.50	2.50	2.38	2.42	2.50	2.50		
		2.42	2.67	2.38	2.71	1.63	0.50	2.46	2.71	0.58	2.58	2.38	
		1.83	2.88	2.46	2.29	2.42	0.75	0.38	1.38	1.50	0.88	1.33	1.25 0.63
40	Adj	1.58	1.92	2.63	1.71	1.96	1.92	2.00	1.63				
		1.75	1.25	2.04	1.29	1.29	1.33	1.79	1.25	1.38	1.17		
		1.13	1.58	1.00	1.08	1.00	0.54	1.00	1.21	0.29	1.13	1.50	
		1.04	2.38	0.96	1.54	2.04	0.13	0.25	0.67	0.83	0.25	0.83	0.38 0.13
41	Lrn	1.63	1.71	2.83	1.17	2.25	2.46	2.33	2.08				
		1.79	1.54	2.00	1.54	1.83	1.92	1.75	1.58	1.75	1.08		
		1.42	1.67	1.46	1.75	0.83	0.67	1.71	1.71	0.67	1.63	1.54	
		1.21	2.25	1.21	2.08	2.33	0.00	0.04	0.75	1.00	0.25	1.25	0.54 0.00
42	Com	1.42	3.54	3.38	1.29	3.00	2.75	2.50	1.63				
		2.67	2.67	2.75	2.75	2.75	2.58	2.71	2.58	2.75	2.67		
		2.54	2.79	2.71	2.75	0.71	0.38	2.63	2.75	1.21	2.71	2.71	
		1.75	3.00	2.75	2.71	2.63	0.63	0.38	1.46	1.63	0.88	1.63	1.25 0.63
43	Adj	1.54	3.08	2.88	1.17	2.33	2.38	2.04	1.33				
		1.88	1.46	2.08	1.75	1.92	1.50	1.75	1.29	1.54	1.75		
		1.92	1.96	1.50	2.04	0.83	0.08	1.63	1.38	0.63	1.75	2.00	
		1.71	2.71	2.29	2.13	2.63	0.46	0.04	0.50	1.17	0.50	1.50	1.04 0.75
44	Lrn	2.08	2.71	2.63	1.21	2.33	2.58	2.17	2.08				
		1.92	1.63	2.21	1.63	1.88	1.63	2.00	1.63	1.67	1.42		
		1.42	1.96	1.54	1.63	0.50	0.38	1.46	1.50	0.71	1.63	1.42	
		2.00	2.71	1.88	2.13	2.46	0.29	0.13	0.29	0.75	0.13	0.79	0.29 0.25

Sub	Domain	Score									
45	Com	0.92	3.58	3.29	1.75	2.67	2.75	2.00	1.54		
	Adj	2.17	2.21	2.42	2.08	2.25	2.29	2.08	1.96	2.63	1.67
	Lrn	1.75	2.08	2.13	2.29	1.17	1.04	2.00	2.38	0.96	2.00
46		2.00	3.00	2.33	2.67	2.88	0.00	0.46	1.33	1.29	0.63
	Com	1.63	2.96	2.79	1.08	2.29	2.38	1.92	1.71		
	Adj	2.13	1.54	2.08	1.46	1.63	1.58	1.71	1.42	1.58	1.25
47		1.46	1.79	1.33	1.50	0.25	0.00	1.46	1.58	0.79	1.63
	Lrn	1.71	2.75	2.21	1.75	2.00	0.00	0.00	0.33	0.67	0.13
		1.79	2.75	2.50	2.38	2.71	0.88	0.08	0.67	0.67	0.29
48	Com	1.54	3.50	3.29	1.33	2.13	2.21	2.04	2.08		
	Adj	2.25	1.67	1.83	1.83	1.88	1.75	1.88	1.79	1.88	1.50
	Lrn	1.38	1.75	1.63	2.13	0.46	0.04	1.67	1.92	0.33	1.96
49		1.79	2.75	2.50	2.38	2.71	0.88	0.08	0.67	0.67	2.21
	Com	1.25	2.67	2.33	1.13	1.96	1.83	1.79	1.58		
	Adj	1.67	1.13	1.79	1.21	1.42	1.46	1.46	1.21	1.33	1.00
50		1.21	1.58	1.21	1.46	0.17	0.04	1.42	1.33	0.42	1.38
	Lrn	0.75	2.08	1.33	1.38	1.67	0.13	0.04	0.50	0.75	0.08
		1.21	2.83	2.04	2.29	2.21	0.00	0.13	0.67	1.08	0.96
51	Com	1.17	2.54	2.63	1.17	2.17	1.79	1.63	1.33		
	Adj	2.29	1.63	2.21	1.54	1.75	1.63	1.75	1.58	1.75	1.00
	Lrn	0.96	1.42	1.25	1.33	0.38	0.46	1.21	1.17	0.29	1.42
52		1.29	2.83	2.04	2.29	2.21	0.00	0.13	0.67	1.08	1.46
	Com	1.25	2.67	2.33	1.13	1.96	1.83	1.79	1.58		
	Adj	1.67	1.13	1.79	1.21	1.42	1.46	1.46	1.21	1.33	1.00
53		1.21	1.58	1.21	1.46	0.17	0.04	1.42	1.33	0.42	1.38
	Lrn	0.75	2.08	1.33	1.38	1.67	0.13	0.04	0.50	0.75	0.08
		1.21	2.83	2.04	2.29	2.21	0.00	0.13	0.67	1.08	0.96

Mean Judged Score for Each Test Item on the Behavior Rating Form
for Each Subject for all Situations Combined for Year Three

Sub	Domain	Score									
1	Com	1.96	2.58	2.79	1.54	2.13	2.21	2.25	2.13		
	Adj	1.42	1.38	1.75	1.42	1.42	1.46	1.58	1.58	1.75	1.71
	Lrn	1.75	1.54	1.38	1.17	0.38	0.29	1.33	1.63	0.96	1.38 1.33
2	Com	1.92	3.38	3.00	1.67	2.42	2.38	2.13	2.04		
	Adj	1.46	1.54	1.58	1.63	2.00	1.54	1.42	1.50	1.96	1.71
	Lrn	1.88	1.58	1.67	1.75	1.00	1.08	1.75	1.63	0.79	1.46 1.63
3	Com	1.79	2.38	3.17	1.83	2.04	2.08	2.17	1.67		
	Adj	1.58	1.50	1.75	1.33	1.46	1.54	1.58	1.42	1.54	1.25
	Lrn	1.04	1.67	1.63	1.46	1.13	0.58	1.00	1.25	0.75	1.29 1.33
4	Com	2.63	2.96	2.96	1.50	2.25	2.67	2.21	1.71		
	Adj	2.29	2.04	2.25	1.79	1.88	2.08	2.25	1.88	2.17	1.54
	Lrn	1.38	2.13	1.71	1.79	1.04	0.42	1.75	1.96	0.58	1.83 1.88
5	Com	2.08	2.83	2.88	1.33	2.42	2.21	1.92	1.83		
	Adj	2.08	2.00	2.13	1.92	2.25	2.04	1.67	2.13	2.04	0.67
	Lrn	1.17	1.96	1.79	2.04	0.13	0.04	1.67	1.83	0.29	1.92 1.50
6	Com	1.88	3.83	3.21	1.63	2.75	2.83	2.54	2.17		
	Adj	2.29	1.92	2.33	2.08	2.04	2.25	2.33	2.04	2.42	1.58
	Lrn	1.88	2.21	1.88	2.13	0.25	0.29	1.79	2.25	0.38	2.25 2.38
7	Com	1.96	4.00	3.21	1.96	2.79	3.54	2.88	2.33		
	Adj	2.46	2.33	2.50	2.54	2.50	2.50	2.63	2.50	2.67	2.58
	Lrn	2.67	2.75	2.63	2.58	0.38	0.00	2.63	2.88	0.83	2.63 2.75
8	Com	2.54	3.67	3.54	2.08	2.96	3.38	3.13	2.42		
	Adj	2.63	2.38	2.71	2.38	2.54	2.71	2.67	2.38	2.54	2.50
	Lrn	2.38	2.63	2.46	2.33	1.83	0.92	2.46	2.67	2.38	2.63 2.67

		Sub	Domain	Score												
9		Com		1.42	1.96	3.08	1.92	1.83	2.50	2.08	2.04					
		Adj		1.88	1.50	1.75	1.83	2.00	2.17	1.79	1.54	2.25	1.25			
		Lrn		1.38	1.75	1.67	2.04	1.00	0.04	1.88	2.08	0.92	1.79	1.88		
				1.04	2.88	1.63	2.46	2.79	0.13	0.00	0.54	0.83	0.13	1.04	0.29	0.13
10		Com		1.67	3.38	3.21	1.63	2.63	2.63	2.50	1.46					
		Adj		2.46	2.54	2.50	2.54	2.67	2.46	2.67	2.63	2.67	2.25			
		Lrn		2.38	2.46	2.63	2.63	1.33	0.13	2.13	2.46	1.17	2.63	2.79		
				0.46	2.88	2.25	2.54	2.63	0.96	0.00	1.17	1.54	0.54	1.67	0.88	0.75
11		Com		3.04	4.38	3.50	1.33	3.17	3.38	2.92	2.63					
		Adj		2.42	2.88	2.54	2.92	2.83	2.63	2.83	2.83	2.83	2.75			
		Lrn		2.58	2.75	2.88	2.88	1.13	0.13	2.79	2.75	1.25	2.88	2.88		
				1.25	3.00	2.63	2.96	3.00	1.75	0.75	1.88	1.88	1.13	2.38	1.88	1.38
12		Com		1.50	3.88	3.17	1.58	2.58	3.17	2.54	0.83					
		Adj		2.29	2.83	2.42	2.83	2.71	2.58	2.83	2.83	2.71	2.58			
		Lrn		2.42	2.71	2.83	2.67	1.00	0.25	2.58	2.83	1.29	2.83	2.83		
				0.50	2.88	2.50	2.71	2.75	1.00	0.25	1.75	1.38	0.50	1.75	1.50	1.00
13		Com		2.58	2.04	3.29	1.21	2.29	2.50	2.21	1.42					
		Adj		2.33	2.54	2.29	2.46	2.50	2.42	2.50	2.50	2.50	1.96			
		Lrn		1.88	2.67	2.50	2.58	0.75	0.00	2.08	2.38	1.21	2.46	2.63		
				1.25	2.71	2.00	2.50	2.67	0.58	0.21	1.46	1.38	0.46	1.46	0.50	0.46
14		Com		2.42	4.17	3.50	1.67	2.79	3.38	3.25	1.75					
		Adj		2.71	2.96	2.63	2.96	2.71	2.71	2.88	2.96	2.96	2.75			
		Lrn		2.83	2.96	2.96	2.96	1.38	0.13	2.71	2.96	2.00	2.83	2.96		
				1.88	2.96	2.96	2.92	2.96	1.00	0.75	2.00	1.63	0.75	1.75	1.75	1.38
15		Com		2.50	3.96	3.17	1.58	2.88	2.88	2.79	2.17					
		Adj		2.50	3.00	2.50	2.96	2.63	2.88	3.00	3.00	2.88	2.25			
		Lrn		2.71	2.88	3.00	3.00	1.25	0.13	3.00	3.00	1.75	3.00	3.00		
				1.63	2.88	2.88	3.00	2.88	0.88	0.38	2.00	1.88	1.25	2.25	1.50	0.88
16		Com		0.71	3.42	3.88	1.46	3.33	3.13	3.42	1.00					
		Adj		1.63	2.00	2.54	1.71	1.54	2.04	1.33	1.79	2.63	0.92			
		Lrn		1.13	1.29	1.58	1.67	0.08	0.08	0.71	2.50	0.00	1.71	1.54		
				1.88	2.96	1.79	2.13	2.96	0.00	0.13	1.38	0.88	0.13	1.75	1.42	0.50
17		Com		1.83	3.13	3.08	1.33	2.00	2.21	2.00	1.71					
		Adj		2.04	1.79	2.04	1.92	2.04	1.58	2.00	1.63	1.96	1.29			
		Lrn		1.33	1.79	1.63	1.92	0.33	0.00	1.71	1.63	0.13	1.54	2.00		
				1.67	2.67	2.08	2.38	2.63	0.13	0.00	0.75	1.08	0.21	1.13	0.13	0.00

	Sub	Domain	Score										
18	Com	1.71 2.08 2.83 1.29 2.00 2.04 1.92 1.92											
	Adj	2.04 1.50 2.08 1.46 1.46 1.25 1.75 1.25	1.92	1.25									
	Lrn	1.21 1.75 1.17 1.50 0.46 0.25 1.71 1.63	0.17	1.33	1.75								
		1.50 2.63 1.17 1.92 2.13 0.00 0.21 0.79	1.08	0.29	1.29	0.08	0.08						
19	Com	1.33 3.25 2.96 1.21 2.08 2.38 1.92 1.29											
	Adj	1.71 1.63 1.88 1.63 1.50 1.54 1.88 1.46	1.58	1.38									
	Lrn	1.46 1.83 1.38 1.67 0.21 0.33 1.50 1.38	0.75	1.38	1.54								
		1.67 2.88 2.33 2.25 2.25 0.38 0.25 0.83	1.04	0.38	1.42	0.54	0.42						
20	Com	1.42 3.08 2.92 1.58 2.17 2.38 1.79 1.63											
	Adj	2.25 2.00 2.25 2.04 1.92 1.88 2.25 1.92	1.96	1.38									
	Lrn	1.54 2.08 1.63 1.92 0.88 0.00 1.96 1.71	0.75	1.71	2.04								
		1.33 3.00 2.42 2.71 2.79 0.38 0.08 0.54	1.04	0.21	1.08	0.00	0.13						
21	Com	1.50 2.79 2.96 1.46 2.25 2.50 2.08 2.08											
	Adj	1.54 1.33 1.71 1.38 1.42 1.46 1.58 1.50	1.79	1.29									
	Lrn	1.21 1.50 1.25 1.33 0.42 0.13 1.58 1.58	0.33	1.25	1.38								
		1.75 2.83 2.25 2.17 2.46 0.25 0.25 1.50	1.67	0.67	1.58	0.38	0.38						
22	Com	1.42 3.21 2.88 1.71 2.33 2.33 2.04 1.79											
	Adj	1.92 1.75 2.04 1.63 1.75 1.67 2.08 1.75	2.13	1.33									
	Lrn	1.38 1.92 1.75 1.63 0.63 0.04 1.58 1.75	0.38	1.54	1.75								
		2.21 2.75 2.46 2.25 2.29 0.50 0.21 0.96	1.00	0.33	1.08	0.25	0.38						
23	Com	1.42 3.83 3.25 1.46 2.88 2.63 2.25 1.63											
	Adj	2.38 2.42 2.58 2.54 2.38 2.50 2.46 2.50	2.71	2.21									
	Lrn	2.33 2.54 2.58 2.38 0.58 0.00 1.88 2.50	0.38	2.46	2.50								
		2.00 3.00 2.75 2.71 3.00 0.63 0.33 1.96	1.71	1.08	1.71	1.00	0.75						
24	Com	1.75 3.79 3.33 2.00 2.79 3.13 2.29 2.04											
	Adj	2.21 1.79 2.21 2.25 2.21 2.38 2.38 2.54	2.58	2.29									
	Lrn	2.13 2.50 2.50 2.54 0.58 0.04 2.33 2.38	0.88	2.46	2.17								
		2.25 3.00 2.58 2.75 2.96 0.50 0.00 1.38	1.50	0.38	1.38	0.75	0.88						
25	Com	0.83 3.21 2.96 1.17 2.46 2.38 2.08 1.96											
	Adj	1.96 1.83 2.13 1.92 1.71 1.79 2.00 1.83	2.13	1.71									
	Lrn	1.42 2.08 1.96 1.88 0.25 0.13 1.54 2.04	0.21	1.96	2.00								
		2.00 3.00 2.00 2.29 2.71 0.13 0.13 1.17	0.96	0.54	1.08	0.17	0.38						
26	Com	1.58 4.92 4.58 1.42 3.63 2.88 3.33 1.38											
	Adj	2.04 2.17 2.58 1.38 2.38 2.13 1.63 1.63	2.50	1.71									
	Lrn	1.54 1.46 1.83 2.08 0.29 0.00 0.63 2.33	0.25	2.33	2.33								
		1.50 2.92 2.17 2.67 2.71 0.50 0.13 0.63	0.63	0.00	1.75	1.25	0.50						

Sub	Domain	Score										
27	Com	3.33	4.92	4.75	1.29	4.71	4.33	4.46	3.46			
	Adj	2.63	2.88	3.00	2.50	2.75	2.63	2.00	2.50	2.75	2.00	
	Lrn	1.92	2.13	2.38	2.75	0.63	0.00	2.13	2.88	1.00	2.63	2.88
28	Com	1.88	2.88	2.88	2.63	2.88	2.08	1.33	2.13	1.38	1.00	2.38
	Adj	0.88	3.71	3.75	1.33	2.71	2.75	2.38	1.58			
	Lrn	2.17	1.88	2.71	1.33	2.13	2.33	1.67	1.50	2.63	0.92	
29	Com	0.92	1.58	1.21	2.21	0.50	0.00	0.38	2.00	0.00	2.25	1.67
	Adj	0.75	2.83	2.04	1.58	2.50	0.38	0.00	0.58	0.46	0.04	1.46
	Lrn	1.25	2.75	1.67	1.50	2.33	0.17	0.17	0.42	0.54	0.29	1.21
30	Com	0.88	3.17	3.46	1.71	2.67	2.00	2.63	1.46			
	Adj	1.21	1.71	1.96	1.38	1.29	1.33	1.04	1.29	1.75	1.38	
	Lrn	1.13	1.17	1.17	1.63	0.29	0.04	0.08	2.00	0.04	1.79	1.29
31	Com	1.25	2.75	1.67	1.50	2.33	0.17	0.17	0.42	0.54	0.29	1.21
	Adj	0.92	0.79	0.92	1.42	0.13	0.00	0.25	1.29	0.25	1.50	0.96
	Lrn	0.46	1.17	0.75	0.79	1.08	0.04	0.04	0.21	0.29	0.08	0.46
32	Com	0.46	1.17	0.75	0.63	1.21	1.46	0.00	0.00	0.38	0.38	0.04
	Adj	1.29	2.75	3.04	1.58	1.88	2.13	2.00	1.25			
	Lrn	0.96	0.83	1.29	1.42	0.04	0.08	0.25	1.50	0.00	1.92	0.88
33	Com	0.63	2.25	0.63	1.21	1.46	0.00	0.00	0.38	0.38	0.04	0.63
	Adj	1.63	3.00	0.38	2.08	2.75	0.00	0.00	1.13	0.75	0.00	1.63
	Lrn	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
34	Com	1.21	1.04	2.75	1.13	2.04	1.54	2.00	1.83			
	Adj	0.96	1.08	1.63	1.33	0.83	1.00	0.38	1.00	1.50	0.71	
	Lrn	0.54	0.38	1.00	1.00	0.00	0.00	0.33	1.42	0.17	1.21	1.04
35	Com	1.38	2.42	0.75	1.17	1.25	0.13	0.08	0.33	0.42	0.08	0.96
	Adj	1.17	3.63	3.50	1.08	2.96	1.79	2.54	1.50			
	Lrn	1.92	1.67	2.75	1.42	1.83	1.71	0.83	0.92	2.46	1.33	

Sub	Domain	Score										
36	Com	0.92	4.29	4.33	1.67	3.29	2.96	2.92	1.63			
	Adj	1.71	2.08	2.83	1.54	2.21	2.00	1.21	1.17	2.42	1.58	
	Lrn	1.46	1.42	1.13	1.96	0.38	0.00	0.42	2.38	0.04	2.04	1.79
		1.71	2.67	2.38	2.04	2.63	0.17	0.13	0.75	0.50	0.17	1.25 1.25 0.17
37	Com	0.96	3.79	3.58	0.83	3.00	2.38	2.67	1.25			
	Adj	2.25	1.96	2.46	1.29	2.08	2.04	1.50	1.75	2.54	1.29	
	Lrn	1.04	1.25	1.71	2.29	0.46	0.00	0.42	2.08	0.25	2.46	1.83
		0.75	2.79	2.04	1.88	2.25	0.38	0.04	0.75	0.71	0.08	1.92 1.33 0.75
38	Com	1.79	4.58	4.46	1.17	3.79	3.25	3.46	2.00			
	Adj	2.13	2.46	2.75	2.17	2.50	2.00	1.46	1.83	2.83	1.79	
	Lrn	1.54	1.42	2.08	2.54	0.38	0.00	0.75	2.67	0.33	2.25	2.29
		1.63	2.88	2.50	2.63	2.75	0.54	0.38	1.50	0.88	0.25	2.00 1.50 0.38
39	Com	1.00	4.25	4.25	1.42	3.21	2.83	2.71	1.21			
	Adj	1.88	2.38	2.63	1.42	2.38	2.08	1.50	1.67	2.50	1.08	
	Lrn	0.96	1.38	1.88	2.25	0.17	0.00	0.29	2.00	0.13	2.42	1.79
		0.25	2.92	2.25	1.75	2.38	0.38	0.38	0.79	0.46	0.13	1.63 1.17 0.29
40	Com	1.21	2.42	3.00	1.08	1.79	1.88	2.08	1.96			
	Adj	1.71	1.75	2.46	1.04	1.54	1.71	1.29	1.04	2.08	0.46	
	Lrn	0.50	1.17	0.88	1.71	0.38	0.00	0.13	1.71	0.00	1.33	1.08
		0.88	2.63	1.00	1.50	2.21	0.13	0.00	0.54	0.33	0.00	1.21 0.67 0.08
41	Com	0.92	1.13	2.88	0.88	2.04	1.38	2.21	1.79			
	Adj	1.46	1.67	1.79	0.88	1.33	1.46	0.83	0.92	1.33	0.54	
	Lrn	0.58	0.83	0.92	1.21	0.17	0.00	0.33	1.33	0.08	1.50	1.17
		0.58	2.71	0.71	1.33	2.08	0.29	0.08	0.54	0.33	0.04	0.96 0.46 0.04
42	Com	1.79	4.33	4.38	1.42	3.54	2.58	3.33	1.54			
	Adj	2.46	2.63	2.92	1.63	2.63	2.42	2.08	2.08	2.67	1.83	
	Lrn	1.58	1.67	2.21	2.38	0.42	0.00	1.25	2.46	0.38	2.63	2.83
		0.63	2.96	2.71	2.63	2.83	0.42	0.13	1.63	1.13	0.50	2.00 1.63 1.13
43	Com	0.96	3.46	3.46	1.79	2.67	2.17	2.67	1.29			
	Adj	1.71	1.54	2.29	1.38	1.58	2.13	1.08	1.38	2.21	1.13	
	Lrn	1.08	1.25	1.38	1.79	0.38	0.00	0.08	2.00	0.04	1.83	1.42
		1.25	2.96	2.25	1.92	2.21	0.00	0.13	0.79	0.67	0.13	1.46 0.96 0.29
44	Com	1.08	3.21	3.38	1.54	2.75	2.17	2.00	1.88			
	Adj	1.42	1.71	1.63	1.50	1.33	1.46	0.83	1.21	1.42	1.13	
	Lrn	1.25	0.96	1.21	1.38	0.00	0.00	0.38	1.75	0.04	1.63	1.33
		1.38	2.88	1.92	1.58	1.96	0.04	0.04	0.46	0.67	0.17	0.79 0.92 0.25

Sub	Domain	Score									
45	Com	0.96	2.88	3.67	0.92	2.79	1.96	2.17	1.54		
	Adj	1.46	1.71	1.79	1.63	1.46	1.54	1.13	1.50	2.38	0.58
	Lrn	0.58	1.29	1.42	1.50	0.00	0.08	0.04	2.13	0.00	1.58 1.38
46		1.50	3.00	1.63	1.46	2.75	0.00	0.00	0.63	0.46	0.00 1.00 0.63 0.00
	Com	0.88	3.58	3.38	1.29	2.71	2.75	2.58	1.29		
	Adj	2.04	1.96	2.67	1.25	1.88	2.13	1.33	1.50	2.25	1.08
47		Lrn	0.96	1.29	1.50	1.54	0.13	0.00	0.54	2.00	0.38 1.88 1.46
			0.58	2.79	1.54	1.67	2.29	0.00	0.00	0.54	0.42 0.00 1.29 0.50 0.04
	Com	2.83	3.96	3.96	1.38	3.08	3.08	3.17	1.75		
48	Adj	2.21	2.17	2.71	1.46	2.71	2.63	1.33	1.50	2.83	0.46
		Lrn	0.42	1.58	1.29	2.25	0.38	0.00	0.25	2.25	0.00 2.54 2.08
			1.63	3.00	2.08	2.21	2.83	0.42	0.00	0.79	0.79 0.13 1.92 1.13 0.63
49	Com	1.04	4.33	4.38	2.63	2.79	2.42	2.88	1.25		
	Adj	1.67	1.71	2.38	1.08	2.29	1.79	0.79	1.58	2.13	1.00
	Lrn	1.17	1.08	1.67	2.08	0.08	0.00	0.42	2.21	0.63	2.13 1.46
50			0.21	2.67	2.13	1.92	2.33	0.00	0.13	0.50	0.38 0.00 1.29 0.25 0.13
	Com	1.46	3.67	3.92	1.96	3.33	2.79	2.67	1.88		
	Adj	1.88	2.33	2.42	1.71	2.08	2.08	1.67	2.17	2.33	1.00
51		Lrn	1.04	1.88	2.00	2.25	0.46	0.38	0.92	2.54	0.17 2.17 2.50
			1.46	2.92	2.67	2.75	2.79	0.00	0.04	1.38	1.21 0.42 1.92 0.92 0.00

Mean Judged Score for Each Test Item on the Summary Rating Form
for Each Subject for All Situations Combined for Year One

Sub	Domain	Score											
1	Com	2.00	1.00	2.00	1.00	1.00	2.00	1.00	1.33	1.00	1.00	1.33	1.67
	Adj	1.67	1.00	1.00	0.00	1.00	1.00	0.67	2.33				
	Lrn	3.67	1.33	3.33	1.67	3.33	3.00						
2	Com	2.00	0.67	1.67	1.00	1.00	2.00	1.33	1.00	1.00	1.00	1.33	1.67
	Adj	1.00	1.00	1.00	0.00	1.00	1.00	0.67	2.33				
	Lrn	3.33	1.33	2.67	2.00	3.33	3.00						
3	Com	2.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.33	1.33
	Adj	2.67	2.00	0.00	0.00	1.00	0.67	0.33	3.00				
	Lrn	3.67	1.67	2.67	2.00	2.67	3.00						
4	Com	3.33	2.67	1.00	1.67	1.67	3.67	3.00	2.33	1.33	1.33	1.67	3.33
	Adj	2.67	0.00	2.00	1.67	2.00	2.00	0.67	3.33				
	Lrn	4.33	2.67	3.67	3.00	3.67	3.00						
5	Com	3.67	2.00	4.33	2.00	3.00	5.00	2.00	4.67	2.00	3.33	4.33	4.67
	Adj	4.00	0.00	2.67	2.33	3.00	3.00	1.00	4.67				
	Lrn	4.67	4.00	4.67	4.00	4.67	3.00						
6	Com	3.33	3.00	2.67	1.67	2.00	3.33	3.00	2.67	1.33	1.33	2.33	2.67
	Adj	3.33	0.00	1.33	1.67	1.33	3.00	1.33	3.67				
	Lrn	4.33	3.00	3.67	3.00	4.33	3.00						
7	Com	3.67	3.67	2.00	1.67	2.67	4.00	3.67	1.67	1.67	3.67	2.67	2.67
	Adj	3.33	0.00	1.33	2.00	2.00	2.00	2.33	3.67				
	Lrn	4.33	3.67	4.33	3.67	4.33	3.00						
8	Com	3.00	1.67	1.00	1.67	2.00	3.00	2.00	1.33	2.00	2.00	1.33	2.33
	Adj	1.67	1.00	2.67	0.00	1.33	1.67	2.67	3.67				
	Lrn	3.67	3.00	3.33	2.67	3.67	3.00						
9	Com	2.33	1.33	1.67	1.33	1.00	2.67	1.00	1.00	1.33	1.00	1.33	2.00
	Adj	2.00	1.00	0.00	0.00	0.67	2.67	1.33	2.67				
	Lrn	3.00	3.00	3.00	2.33	3.00	3.00						
10	Com	4.33	4.00	4.00	2.00	2.00	3.00	3.33	4.00	2.00	2.00	4.00	4.00
	Adj	3.67	3.33	0.00	0.00	3.33	3.33	1.00	4.33				
	Lrn	4.67	4.00	4.67	3.67	4.67	3.00						

Sub	Domain	Score											
44	Com	3.00	1.67	1.67	1.00	1.67	3.33	2.00	1.33	1.00	1.67	1.33	2.00
	Adj	3.33	1.00	0.33	0.33	1.00	2.67	2.00	3.00				
	Lrn	3.67	2.67	4.00	2.67	4.00	3.00						
45	Com	3.00	1.33	1.67	0.67	0.67	3.33	1.33	1.00	0.67	0.67	1.33	1.33
	Adj	3.00	1.00	1.00	1.67	1.33	1.33	1.67	2.67				
	Lrn	3.67	2.00	3.33	2.67	3.67	3.00						
46	Com	2.33	1.33	1.33	0.67	0.67	3.00	1.33	1.33	0.67	0.67	1.67	1.67
	Adj	2.00	1.33	1.00	0.33	1.67	2.00	1.67	2.67				
	Lrn	3.67	2.00	2.00	2.00	3.33	3.00						
47	Com	3.00	2.33	3.00	1.33	1.33	3.33	2.00	3.67	1.33	1.33	2.67	3.00
	Adj	1.67	0.33	1.33	1.67	1.33	2.33	1.67	3.33				
	Lrn	5.00	2.33	3.67	2.67	4.33	3.00						
48	Com	0.67	0.67	1.00	0.67	0.67	1.33	0.67	0.67	0.67	0.67	1.00	1.00
	Adj	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.67				
		3.33	1.67	3.33	1.67	3.33	3.00						
49	Com	2.33	1.33	1.33	1.67	1.33	3.00	1.67	1.33	1.33	1.33	2.00	2.67
	Adj	4.00	1.33	1.33	3.67	1.33	3.00	1.67	3.67				
	Lrn	4.33	2.67	3.33	2.33	3.33	3.00						

Mean Judged Score for Each Test Item on the Summary Rating Form
for Each Subject for All Situations Combined for Year Three

Sub	Domain	Score											
44	Com	2.67	1.33	0.67	0.67	0.67	3.00	1.33	0.67	0.67	0.67	0.67	1.67
	Adj	2.33	0.33	0.67	1.00	1.00	2.33	0.67	3.00				
	Lrn	3.67	2.33	2.67	2.00	3.00	3.00						
45	Com	2.67	1.00	1.67	0.67	0.67	3.00	1.00	1.33	0.67	0.67	2.00	2.33
	Adj	3.33	0.00	0.33	2.67	1.00	1.67	0.00	4.00				
	Lrn	4.33	2.67	3.33	3.33	3.67	3.00						
46	Com	2.33	1.00	1.67	0.67	0.67	3.00	0.67	0.67	0.67	0.67	1.67	2.00
	Adj	3.00	1.00	0.00	0.00	2.00	1.33	0.33	3.00				
	Lrn	4.00	2.67	4.00	2.33	4.00	3.00						
47	Com	3.33	0.67	3.67	0.67	0.67	4.00	0.67	4.33	0.67	0.67	3.33	4.00
	Adj	4.00	1.33	1.00	1.33	1.33	2.67	0.00	4.00				
	Lrn	4.67	3.67	4.33	3.67	4.33	3.00						
48	Com	3.33	0.67	1.33	0.67	0.67	3.67	1.00	2.00	0.67	0.67	2.00	3.00
	Adj	2.33	2.00	0.00	0.00	2.00	1.33	0.33	2.67				
	Lrn	4.67	2.67	4.67	2.67	4.00	3.00						
49	Com	2.33	1.33	1.33	0.33	0.33	3.00	1.67	1.33	0.33	0.33	2.00	2.33
	Adj	1.33	0.33	1.33	0.33	0.67	0.67	0.33	3.33				
	Lrn	3.33	3.00	3.00	3.00	3.00	3.00						

HV1663 Curtis, W. Scott. c.2
C947 A STUDY OF BEHAVIORAL
St94 CHANGE IN 50 SEVERELY
MULTI-SENSORILY HANDICAPPED
CHILDREN...

Date Due (1976)

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HV1663 c.2
C947
St94
Curtis, W. Scott.
A STUDY OF BEHAVIORAL CHANGE IN
50 SEVERELY MULTI-SENSORILY
HANDICAPPED CHILDREN...
(1976)

DATE ISSUED TO
AMERICAN FOUNDATION FOR THE BLIND
15 WEST 16th STREET
NEW YORK N.Y. 10011

